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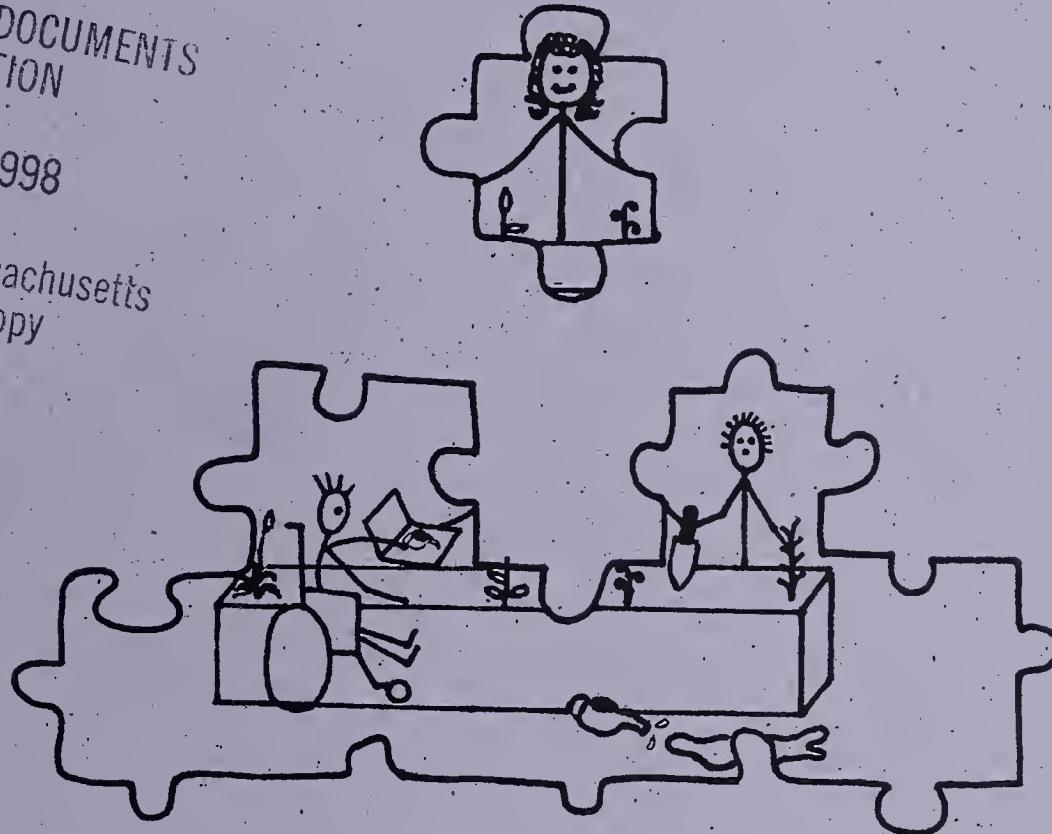
HOW TO REVITALIZE YOUR DAY PROGRAM: A CLINICAL PERSPECTIVE

INTEGRATED THERAPEUTIC SERVICES IN PROGRAMS FOR
ADULTS WITH DEVELOPMENTAL DISABILITIES

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VERONICA C. ANASTASIO, MA CCC-SLP

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DEDICATION

TO OUR FRIENDSHIP

ABOUT THE AUTHORS

Molly Campbell is an occupational therapist with extensive work experience in adult developmental disabilities and pediatrics. Her specialties include developing work-related programming for adults with developmental disabilities and modifying activities for individuals with cerebral palsy. Molly is an expert in the design and construction of unique adaptive equipment and treatment activities. She has taught various occupational therapy courses at Mt. Ida College in Newton, Massachusetts and is the author of "A Therapeutic Approach to Work Related Tasks; An Activities Curriculum".

Veronica C. Anastasio is a speech-language pathologist who specializes in augmentative and alternative communication services for individuals with developmental disabilities and severe special needs. She has a private consulting practice and is a clinical associate at Boston University. In her role as clinical supervisor in speech pathology for the Massachusetts Department of Mental Retardation, Ms. Anastasio has done extensive work in the areas of supervision and training. She is a co-author of "The Fernald Active Communication Training (FACT) - A Multimodal Communication Training".

Our professional relationship, which would eventually lead to the writing of this book, began accidentally when we stumbled upon one another at the Greater Waltham Association for Retarded Citizens (GWARC) in Waltham, Massachusetts. Because of a schedule change, both of us would now share the same small office on the same day. For some time our interactions were limited to apologies for getting in each other's way. While we continued to work independently, we became increasingly curious about the other's ideas and projects. (What was that stuff on her desk?) Eventually Veronica had a plan for a large wall calendar which required some special adaptations, and she tentatively approached Molly to ask for assistance. The collaboration was born! We were soon energized by each other's creativity and talents. From this initial collaboration we have moved on to work together for several years in day habilitation and vocational programs throughout the greater Boston area. Both of us are invested in the establishment of stimulating program environments so that people with physical, sensory, and cognitive limitations will obtain appropriate therapeutic benefits while participating as independently as possible in activities that are pleasurable, meaningful and productive.

Chapter One

Introduction: Features of Our Consultation Method

Through the years, as we worked together, our working styles began to rub off on one another. We spent a lot of time both on and off the job “brainstorming.” It soon became clear that there were basic beliefs about our work that we shared.

- Therapeutic interventions should be provided in natural, stimulating environments.
- Therapists should advocate for and develop meaningful and creative activities within those environments.
- Therapists should train staff working in those environments to understand and effectively use those therapeutic activities.

We firmly embraced those principles and, thanks to the continued support of GWARC management and administration, we were able to develop a consultation method that we believe has worked in the best interests of adults with developmental disabilities, administrators, therapists and staff. The features of that method include:

1. Using an Indirect Treatment Approach: Following the completion of a person centered assessment, we develop written programs with step by step procedures for program staff to implement. Other than modeling for staff within a functional environment, direct treatment from us is rarely indicated. Adapted materials (lap trays, jigs, augmentative communication devices, etc.) are often needed, and a great deal of time is spent developing and constructing them. Once completed, we release the adapted materials to program staff with instructions on how these items should best be used within routine activities.

Research has shown that integrating therapeutic interventions into routine activities is more effective in teaching people with cognitive impairments, than is a more traditional approach in which participants receive separate, direct therapy services. Learners with developmental disabilities often fail to generalize acquired behaviors to new settings, people, tasks, or materials (Stokes & Baer, 1977). This failure to generalize limits the usefulness of new skills to the settings within which they were trained. A skill learned in a quiet therapy room under a therapist’s direction may not be carried over to an individual’s workplace or home. Therefore, it is essential to provide rich opportunities to interact within functional environments so that spontaneous use of independent skills can be facilitated, reinforced, and practiced.

2. Collaborating with Other Therapists: Our therapeutic plans and projects are always more effective when we collaborate. It is now virtually impossible for us to embark on a project without soliciting feedback from one another, other therapists, and program staff. When we collaborate we find that the quality of our work is higher and that we can accomplish more work, faster; we gain insight into the goals of other therapists outside of our own specific area of expertise, we become better resources for other staff, and we design “smarter” adapted tools and communication devices. Periodic formal meetings among all of the consulting therapists and the program manager help to facilitate the collaboration process.

3. Contributing to Program Curriculum: It is no secret that for therapeutic programs to be effective they require consistent implementation. Variety in activities, and choices among them, are also essential if we expect individuals to stay motivated and meaningfully engaged. In order to integrate our therapeutic plans, we need to help develop and refine the program curriculum. GWARC gave us the opportunity to work with program managers and supervisors in developing and structuring individual and group activities. This process was invaluable, and we have replicated it successfully in other programs.

4. Interacting Directly With Case Managers: Regular interactions with program managers, administrators and other clinical staff are important to maintain consistent, high quality services. Staff at every level should feel that we are working with a clear understanding of our role and our responsibilities. However, it is the case manager and direct care staff person whose ideas often form the basis of our therapeutic plans. These “front line” staff, in particular, should have direct access to clinical consultants and be empowered to request case conferences, program observations and inservice trainings as needed.

5. Designing Original Materials: Although there are a lot of commercially made “rehab” materials, many of the best ideas require original designs and fabrications. A work space that includes ample space to store construction materials, supplies, and tools promotes creativity and the development of personalized products that better fit the needs of the people. That space is of little use without a budget to maintain needed supplies. Finally, tolerance is a virtue. Administrators need to understand that a messy, noisy work space is a harbinger of good things to come. (See Appendix A for a list of suggested space features, equipment and supplies.)

6. Maintaining High Standards in Education and Training: We continue to keep current in “state of the art” service delivery practices in our respective fields in the areas of developmental disabilities, multisensory impairments, adapted design, and technology. There is a vast amount of information to digest, so it is great to share materials from conferences we’ve attended. We often attend seminars and trainings together if our schedules permit. Program managers hiring consultants should be aware that clinicians within our respective disciplines have varying levels of expertise. It is important that the consultants you engage have knowledge and experience relevant to people with developmental disabilities. Program managers should expect consultants to expand upon their base of knowledge by attending conferences and taking classes and should find ways to support them in these efforts.

Chapter Two

Efficient Use of Consultation Time (or “How to Get the Biggest Bang for Your Buck”)

The consultation method that we developed and used with success at GWARC was reviewed in the introductory chapter. In this chapter, our “rules” for making the most out of limited consultant hours will describe how that method translates into daily practice.

Rule #1: Streamline the Evaluation Process: Typically, consultants are asked to devote a good portion of their effort to evaluations and recommendations. This is truly a necessary first step for any clinician. A sound assessment, which includes developmental information, is essential. Once a diagnostic work-up is completed, brief reports should be written which focus on functional skills. Specific recommendations, with suggestions for therapeutic plans, should be included. Historical information, test scores, and technical jargon should be kept to a minimum. “Check list” style reports are quick and appropriately used for providing information to staff within the program (see Appendix B and C for SLP and OT checklist assessment forms). In day habilitation programs in Massachusetts therapy reevaluations are required every three years. Generally it is unnecessary to produce full assessments on a more frequent basis. Brief annual updates can be written to document progress and modify therapeutic plans.

Rule #2: Make the Consultant Accessible: Too often consultant schedules are inconsistent and staff are not certain when the therapists will be available. In general, clinical staff should be asked to develop and stick to a routine schedule. This will allow case managers to plan individual consultations or program observations. It will also facilitate interaction between consultants. Even if they are not at the program together, they know they can reach each other by phone during regularly scheduled hours at a particular program.

The consultant’s hours should be posted in a common area, preferably with a sign-up sheet attached to a clipboard. All staff should use the sign-up sheet to help direct the clinician’s time each week. Program managers should periodically review the list and prioritize needs (refer to Appendix D for sample sign up form).

Rule #3: Develop a Follow-up Documentation System: After a consultation has been completed, especially if specific changes are recommended, a brief written note should be generated by the consultant. These notes serve to remind the staff person and the consultant of the decisions that were reached, and they provide a means for

supervisors to follow-up on recommendations and document program changes. Having a section in each person's record devoted to each clinical area is quite helpful. Along with the evaluations and current data, these notes can be filed there for easy access by all.

Often when Individual Support Plan (ISP) objectives with specific implementation strategies are required, the consultant and case manager decide jointly what they will be. Due to time constraints, the consultant is typically unable to attend ISP meetings. With a simple written "encounter" form (see Appendix E) the case manager can bring the information directly to the ISP meeting and use it to report on the most recent recommendations.

Rule #4: Choose and Use Staff Wisely: Therapeutic consultation with case managers is most effective when these individuals are smart, creative, and energetic. Day habilitation staff vary widely in their levels of competence and effectiveness. We have observed that people on a career path or with experience in related fields, such as education, psychology, occupational therapy, etc., often make the best candidates for the job. Although these individuals may move on after one or two years, their personal investment in the program makes a real difference in the quality of everyone's experience. Intelligent, motivated case managers can quickly and effectively implement ideas decided upon during consultation meetings.

We have also found it extremely helpful to have a therapy aide or interested staff person assigned to each discipline. This individual can assist with the implementation of person centered goals within their assigned discipline while also modeling interventions for other staff. The aides can also assist with the construction of therapeutic materials and serve as the eyes and ears of the consultant throughout the day. Working closely with a clinical staff person makes this position an attractive one for an employee looking for a meaningful professional experience or resume building credential.

Rule #5: Use Consultants as Trainers: Many times the wealth of information that a consultant has about a person is captured on the pages of their evaluation and goes nowhere else! Once an individual's evaluation is finished, the clinician will need to invest time inservicing staff to clearly summarize diagnostic information and outline treatment plans so that recommendations can be embedded into daily experiences. Beyond individual treatments, clinical consultants have expertise in many areas on which they can provide inservices. Topics might include sign language and multimodal communication, hand function, cognitive development, sensory defensiveness and arousal states, safe transferring techniques, etc. In addition, each consultant should develop a handout for an orientation packet (see Appendix F) or participate in the orientation training provided to new staff. In either case, the process for accessing consultants should be reviewed and each therapist's role and responsibilities should be described.

Rule #6: Budget for Materials and Consultant Collaboration: Therapists will invest a great deal of time creating and fabricating therapeutic tools; program administrators

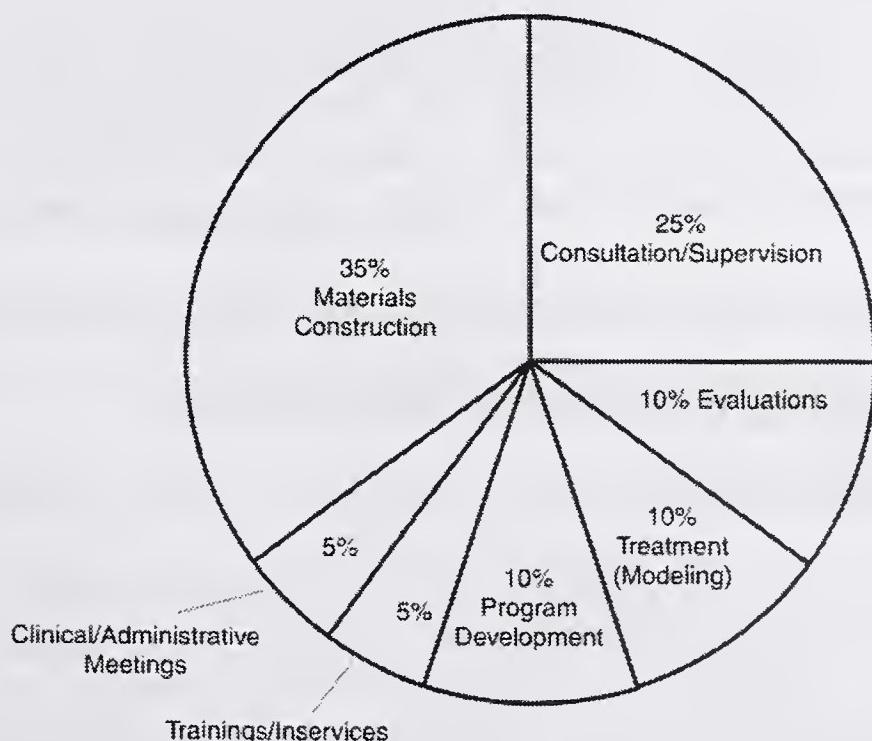
should anticipate the need for money in their budgets to cover the cost of these raw materials. Money to cover the cost of recommended commercially available equipment (e.g. switches, Power Links, computer software, etc.) should be considered as well.

Collaboration among clinical staff increases their productivity, reduces redundancies and contributes to the provision of superior services. Program administrators and managers who understand the value of collaboration will participate in that process, and anticipate the cost. Periodic meetings with the clinical team are invaluable.

Agendas should focus on global programmatic issues. At GWARC, the consultants meet quarterly with administrators to perform internal program quality reviews. Other meetings might target curriculum planning, the development and enhancement of program environments, or how to further adapt the physical plant to increase accessibility.

Rule #7: Understand Where the Time Goes: Consultants need to spend time completing assessments, consulting with individual case managers, modeling interventions, providing inservices, devising and evaluating programmatic changes and designing and constructing adapted materials. A time analysis of our typical week of work provided the following breakdown:

- 35% Adaptive equipment and activity design and construction
- 25% Consultation and supervision of case managers, aides and interns
- 10% Assessment procedures and written evaluations
- 10% Individual and group treatment (modeling/diagnostic)
- 10% Program development
- 05% Trainings and inservices
- 05% Meetings with other clinical and administrative staff



Chapter Three

Communication Treatment: A Dynamic Multimodal Approach

It is common for individuals with developmental disabilities to have communication disorders. Sometimes they are quite severe. As we have already stated, people with significant sensory, motor and/or cognitive impairments often do not benefit from traditional, direct speech and language therapy conducted in a clinic or “therapy room”. For treatment to be most effective with this population, it must be delivered continuously during functional activities throughout the day. Consistent with our consultation model, this approach succeeds only when environments, activities, tools and communication partners are engineered to support it.

In this section, we will discuss some of the issues which challenge the speech language pathologist (SLP) providing services to adults with severe special needs. This is a broad topic, so interested readers should refer to the additional materials in our reference list.

Assessing Strengths and Needs

Conducting an assessment to establish a person’s communicative strengths and needs is an essential first step for the SLP. Individuals with developmental disabilities can present with very severe communication impairments. Speech may be limited or difficult to understand. There are, however, a variety of ways that a person can communicate without speech. In fact, we all use many of these “modes” of communicating ourselves, including: facial expressions, eye contact, vocalizations, body movements, gestures, manual signs, objects, pictures and electronic aids.

To begin the assessment, the SLP documents communicative **strengths** by determining:

- “What modes of communication are independently used now?”
- “Are there incidences of effective communication? If so, where and with whom?”

Understanding a person’s communicative strengths is very important, since the independent communication modes that a person uses form the foundation of their communication system. While SLP’s strive to promote the use of those independent modes, in many cases those skills won’t meet all of a person’s communication needs.

The SLP documents communication **needs** by determining:

- "What are the current situations where communication is difficult or impossible?"
- "Who are the communication partners within those environments?"

Having a detailed description of a person's unmet communication needs is critical, since treatment plans will be designed for and carried out in those situations where communication is currently breaking down.

The Importance of Developmental Level

In order to select the most appropriate mode or modes to address unmet communication needs, the SLP should establish a developmental age range. This information can help predict the extent to which **symbolic** communication modes (e.g. manual signs, pictures, letters and words) may be incorporated into a person's communication system. Development data can also provide a starting point for intervention.

Kravitz, Cassidy and Littman (1996), who studied adults with developmental disabilities, reported that individuals up to a developmental age of 2.5 years will rely on non-symbolic modes (e.g. non ritualized gestures, facial expressions, vocalizations, actions with objects, etc.) for most communicative functions (Light, 1988), including: to communicate information, express wants and needs and achieve social closeness. Individuals at the high end of this range may use a few symbols (e.g. a small group of manual signs, words or pictures) to request highly preferred items. In addition, individuals at this level have been observed to successfully use "conversation books" (see below) to initiate interactions and socialize with others.

Above a developmental age of 2.5 years, individuals were reportedly able to use a variety of symbolic communication devices with large vocabularies to express wants and needs, transfer information and establish and maintain social closeness. Receptive communication skills were also enhanced by the use of manual sign and picture communication devices (e.g. picture schedules, calendars, etc.) with individuals at and above the 2.5 year level.

Assessing Developmental Level

Generally, individuals with severe special needs can not actively participate in direct diagnostic activities. Developmental assessment information must be gathered during observations in natural environments. Several familiar communication partners should be interviewed. Functional communication skills, along with the communication modes that the individual currently uses, should be observed and documented. We currently use The Callier-Asuza Scale (Stillman & Battle, 1985) and "A Protocol for the Assessment of the Communicative Interaction Skills of Nonspeaking Severely Handicapped Adults and Their Facilitators" (Light, McNaughton and Parnes, 1986). By using these diagnostic tools in combination, we can determine a developmental age range and begin to predict whether we should incorporate symbolic communication modes in our treatment plan.

Selecting the Appropriate Mode to Address Unmet Needs

For individuals who cannot use symbols functionally, unmet communication needs can be addressed by teaching the use of a non-symbolic mode. Often, these individuals already demonstrate the use of non-ritualized gestures, actions with objects and the ability to lead others to gain attention and make requests. Unmet needs can often be addressed by modeling the use of those non-symbolic communication modes in functional situations.

Angie C. is an ambulatory woman who is non-speaking. Angie presents with a significant cognitive impairment and anxiety disorder. She typically gains access to needed items (e.g. sodas, magazines, musical instruments) by leading communication partners to locations where she knows those items are kept. Angie often wants to change her shirt, and currently expresses this need by stripping. For several years, staff have attempted to teach Angie to use a manual sign for "shirt" to request changing her clothes. This met with limited success. Recently, a picture of "change clothes" was mounted on the wall in Angie's residence and day program. A program was designed to teach her to point to the picture to make the request to change. According to the data, Angie was not demonstrating success with this procedure.

Following an assessment of her developmental level, it was clear that Angie was not a candidate for communication treatment focused on the use of symbols. The SLP, with the help of program staff, devised a plan to teach Angie to use a non-symbolic communication behavior to request changing her clothes. They selected a mode that she was already demonstrating success with, namely "leading others."

When Angie began to strip, staff were directed to intervene and assist her with leading them to her room (or closet at the day program) where she could pick out a new shirt. During this interaction, staff praised her: "Hey, Angie, that's the way to tell me you want to change your shirt. Good going!" Angie began independently leading others to request changing her clothes within three weeks of implementation of this program. Her communicative behavior was successfully modified when a mode she was capable of using was targeted.

In situations where individuals can use symbols effectively, the decision about which mode to select is somewhat more involved. A good rule of thumb is to consider which mode will satisfy the unmet need most efficiently. Even for individuals who can use symbols, non-symbolic modes may be preferable since they are independent and often quickly produced. If symbolic modes are needed, spoken words and manual sign should be considered first since these modes are unaided. In situations where speech, memory and/or fine motor skills are impaired, the use of aided modes (e.g. picture systems, electronic aids, etc.) is indicated.

Embedding Treatment into Functional Activities

Once the SLP has an understanding of an individual's communicative strengths, needs

and developmental level, it is possible to write an effective treatment plan. It is at this stage that an indirect consultation model can be clearly illustrated. Once assessment information is shared, a plan for providing treatment is written. The SLP collaborates with the team to decide on the environments and activities in which the treatment plan should be implemented.

Let's look at a few examples of integrated treatment. First, we will present a communication objective developed for a man who has demonstrated the ability to use symbols functionally, and would benefit from learning more manual sign.

Joe R. is ambulatory and non-verbal. Joe attends a pre-vocational program where program staff reports that he often rejects table top activities. Staff has observed that Joe is highly motivated to do jobs that include walking around the building or going outside (i.e. restocking paper goods in the kitchen and bathrooms, raking leaves, taking out the trash, etc.). Since he has regular daily opportunities to do these active jobs, a great communication objective for Joe might state:

"Joe will independently use manual sign to select a preferred job 80% of the opportunities over one month."

In this example, we see that Joe is selecting activities he likes that are productive and functional. Because they are embedded into his daily experience, his opportunities to learn and use new communication skills will occur many times a day. Rather than sitting with Joe at a table (a non-preferred activity) and asking him to label a picture or object on demand (as might have been attempted in a direct therapy model) we suggest providing him with a meaningful, motivating experience during which his communication has a functional outcome.

Next we will describe a communication objective for a woman who uses an augmentative communication system containing over 1000 pictures.

Susan K. is a woman with cerebral palsy who is non-ambulatory, non-speaking and deaf. Susan has a large vocabulary picture notebook that she accesses with an adapted pointer. She uses her device independently much of the time. Following an assessment of her developmental level, however, it appears likely that Susan could expand her picture use. Since she is highly social and enjoys helping others, embedding her treatment into functional routines will be easy. Her objective might state:

"During daily activities, Susan will independently use pictures to provide information to a communication partner 80% of opportunities over one month".

Once again, we have established that treatment will be conducted in routine environments where there are many opportunities for learning. Susan's preferences have been considered as well. This objective does not specify which functional activities will be targeted; Susan is a quick learner who responds best when given a variety of learning

environments where she has opportunities to interact with many partners. Her treatment will be embedded into daily activities such as shopping, meal planning, grooming and socializing. Once she has achieved independence within targeted interactions, we can introduce her to new settings for continued expansion of her expressive skills.

Modeling and Time Delay Procedures

The indirect treatment goals described above are developed collaboratively by the SLP and other program staff. The SLP then devises a teaching strategy. The procedures associated with this strategy must be clearly written so that all those trained to implement the plans will do so consistently.

Successful treatment requires the initial use of a great deal of modeling. Whatever skill we are targeting, it is essential that the learner observe communication partners using that skill within functional environments. It is equally important to avoid verbal commands and test questions, since these strategies promote dependency and limit our ability to facilitate initiation. Following the use of repeated models, we will combine natural cues with a time delay procedure (Halle et al., 1981; Handen & Zane, 1987). This refers to the use of a designated pause between the natural cue and the delivery of a model or other instruction.

Let's go back to one of our examples. Remember Joe R.? We want to teach Joe to request a preferred job by independently using a manual sign during functional routines. For several days or weeks, we will simply use the sign ourselves to suggest doing the activity, modeling the sign when we name or carry out the task. If Joe imitates our model, we will praise him. We will not ask Joe to produce the sign on command.

Hopefully, we will begin to see Joe imitate our model every time. Once he does so, we will insert a pause during job transitions, giving him a chance to independently suggest a preferred job by signing on his own. If Joe does not initiate, at this stage we will probe his readiness to produce the new sign by providing a cue (i.e. lightly tapping his hand) and pausing. Again, we will not verbally command Joe to produce a sign. If Joe does not respond to our touch cue, we will provide a model, and look expectantly at Joe. We will provide praise at whatever level of prompt he needs to produce the sign.

This method of initial modeling promotes positive learning experiences. Ample time is provided to learn a skill. When an extended period of teaching is followed by a time delay, the level of skill acquisition can be probed without resorting to commands or test questions.

Training Independent Use of Picture Communication

The modeling and time delay principles that we described to teach independent use of sign can also be used to facilitate independent use of pictures to communicate. As with all new tools or tasks, initially a lot of modeling will be very important. Therefore, everyone in the person's environment should be encouraged to actively model using

pictures whenever possible.

Here is a procedure to encourage the independent use of pictures to make requests (Fernald Developmental Center Speech and Audiology Department -1996).

1. Set up a situation which encourages the person to make a request. For example:
 - a. Omit an item needed to complete an activity (i.e. provide paint and paper but no paintbrush).
 - b. Place desired items in view but out of reach.
 - c. Offer the wrong item for a given activity (i.e. provide a straw instead of a spoon for pudding).
2. When encouraging a person to use their pictures, never make demands, ask “test” questions or say “use your pictures to tell me...” Instead, use the following prompt hierarchy:
 - a. Pause 5-30 seconds to allow the person to make a request independently (by selecting an appropriate picture in response to a natural cue. If he/she does not, then...
 - b. Provide a model for the person to imitate and pause again - if he/she does not, then...
 - c. Provide hand over hand assistance
3. Reinforce the person at whatever step they succeed by providing the requested item and verbal praise.

Eventually this environmental “sabotage” can be discontinued. Once the person demonstrates independent use of pictures in the target situation, select other situations to train the use of additional vocabulary.

The “Third Person” Prompt Procedure

The use of a modeling/time delay strategy is easily embedded into functional situations when a third person participates in the communicative interaction. In this method, the picture user is encouraged by a third person (the prompter) to interact with a communication partner. As with the basic time delay procedure, this strategy initially depends on repeated opportunities for modeling. Once the teaching phase is completed, a pause is inserted to encourage independence. Verbal communication is limited to natural cues. Commands like “use your pictures” or “show me _____” are never used.

Let’s look at an example of the use of this procedure to address the communication objective of Susan K. (Fernald Developmental Center Speech and Audiology Department - 1996).

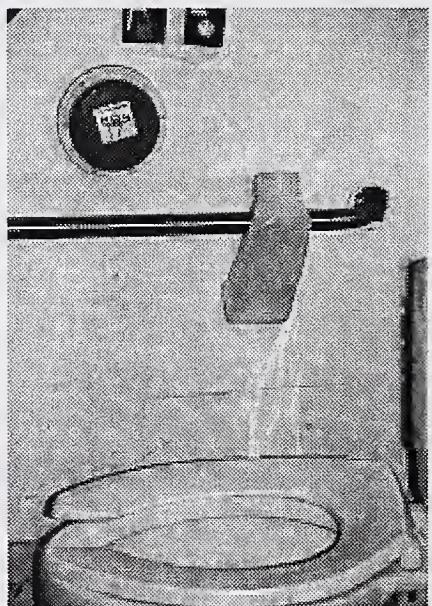
Marc is one of Susan's favorite people. He drives Susan to her day program every morning. Marc hates the cold weather, but often forgets to bring his gloves. Susan really likes Marc and hates to see him uncomfortable. She would be glad to help remind him to remember his gloves.

- 1. For several days, Susan's communication prompter (using a natural verbal cue) will notice "Hey, Marc forgot his gloves again! It's really cold this morning, we'd better tell him to go find his gloves." At this point the prompter will model using Susan's notebook pictures to remind Marc about his gloves, and Susan will probably imitate the model (if Susan does not imitate the model, hand over hand assistance should be provided). Marc will respond with gratitude, and throughout the ride comment on how glad he is to have his gloves.*
- 2. Once this routine is established, and the expectations are pretty clear to Susan, the prompter should insert a pause following the natural verbal cue. During the pause, the prompter should gaze expectantly at Susan, and then at the picture in the notebook, waiting for Susan to independently select the picture. She should not speak during this pause. She should praise Susan if she reminds Marc to get his gloves.*
- 3. If Susan does not perform independently following the pause, go back to step #1.*

What is Augmentative and Alternative Communication?

When people think of augmentative and alternative communication (AAC) systems, they almost always visualize an electronic device or some kind of computer. Technology developers in the field of AAC have made amazing progress in the past decade. Sophisticated communication devices, with vast memories for vocabulary storage, can be tremendously powerful tools, especially when used in environments with unfamiliar people.

Simple technology with digitized voice output can be effective for people with significant cognitive impairments. When used to signal attention and make basic requests, single message devices (such as the "Big Mac" switch) can be strategically located for routine requests. For example, a device mounted near a stack of wheelchair trays might say, "Please help me put on my tray." Another one can be mounted near the bathroom to enable people to request assistance with toileting. Pictures contacted to the switches will cue the users as to the message content. Other simple digitized devices (e.g. the "Cheap Talk", "Introtalker", "Message Mate", etc.) can provide access to multiple messages. Many of these devices are available in direct selection or scanning versions.

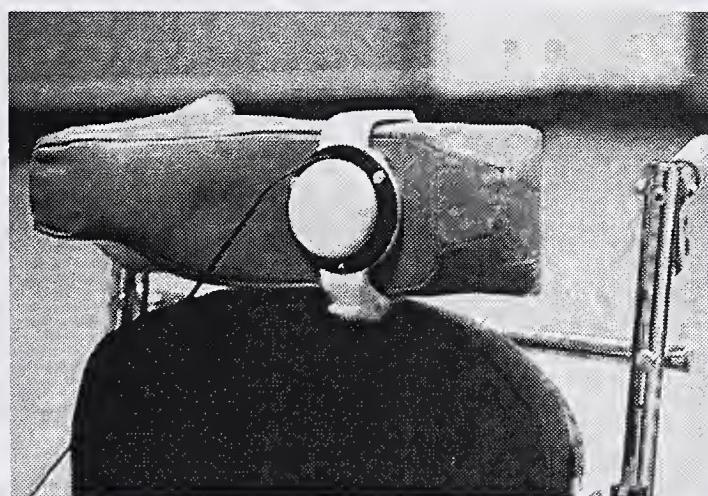
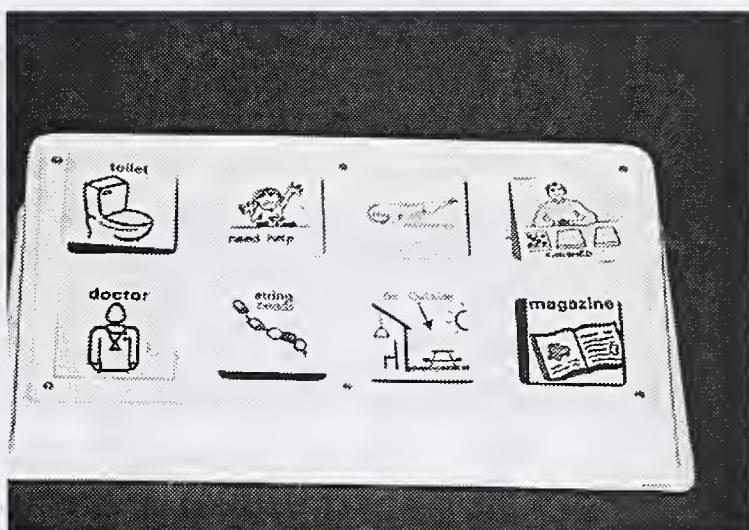
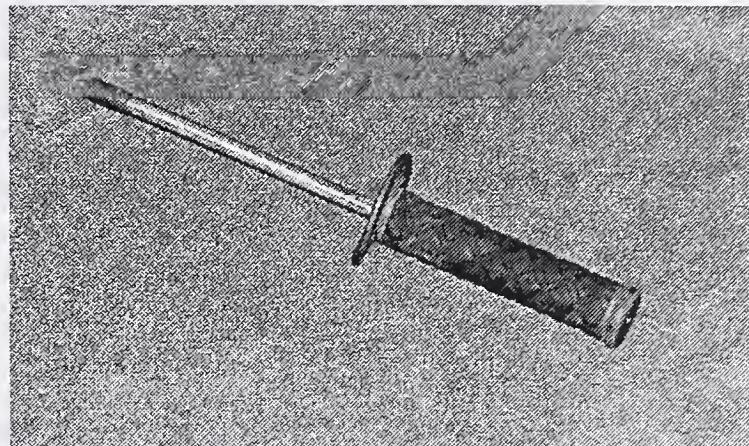


In order to directly select from a group of targets, an individual



must have accurate pointing skills. Adapted pointers may be needed to increase range and enhance accuracy. Considerations for pointer design include weight, length, shape (i.e. straight or angled), and handle style. Pointers can even be built into splints.

For a person to use a scanning system with success, they must wait for the desired item to be indicated (generally by a light) and then hit a switch to select it. It is important to assess each individual's ability to access a switch. What kind of switch should be used? Some switches are large, some are small, some are durable, some are sensitive, some have a textured surface, some are brightly colored, and some provide sound or light feedback when activated. What body part will contact the switch? Where should the switch be placed? Many wheelchair users can most effectively use the chosen switch when it is securely attached to an arm rest, a head rest, or a foot plate. We have had success molding mounting plates out of splinting material or expanded PVC.



Light Technology AAC

The term "technology" is not limited to electronic devices. It is more accurately used to describe any implement or tool used to enhance and improve our lives. Most people who use AAC rely on a range of modes depending on the demands of the setting and the communication partners within it (Vanderheiden and Lloyd 1986). Regardless of their developmental level, most AAC users demonstrate that electronic systems are not

their first choice when interacting with familiar partners. Moreover, electronic systems need maintenance and may not always be available when needed. Generally, the use of an independent mode (e.g. gesture, facial expression, vocalization, etc.) is attempted first. If alternatives are still needed, it is often a light technology solution (e.g. picture communication notebook, alphabet board, etc.) that best bridges the communication gap. Light technology AAC devices are communication aids which are made by combining symbols such as pictures, photographs, words and letters. They are as individual and unique as their users. In our consultation practice, it is often the SLP, OT and therapy aides who design and construct these systems with input from the PT and adapted equipment designers.

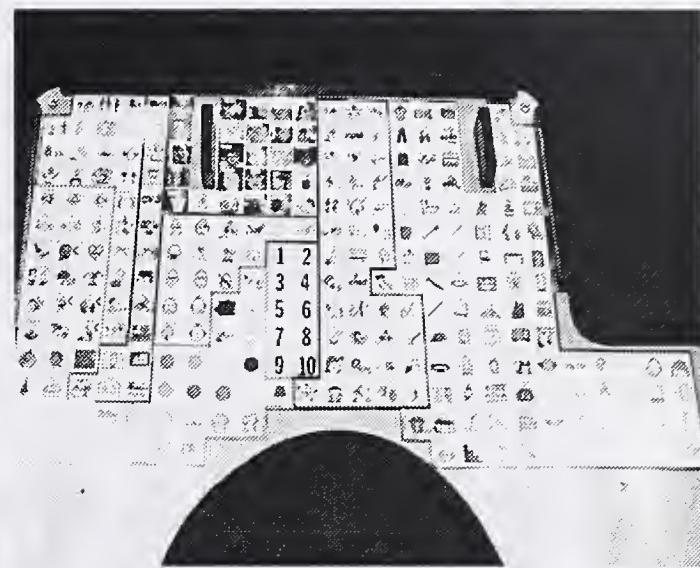
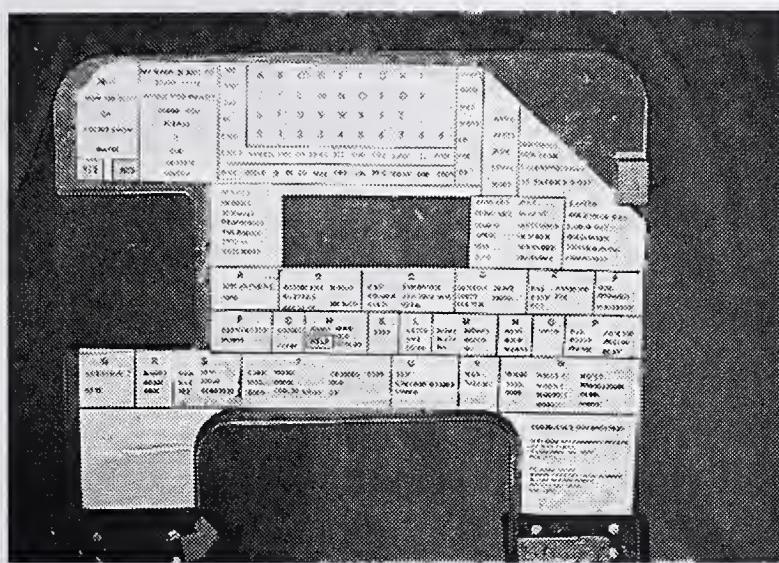
Here are some examples of light technology systems we commonly use with program participants:

Picture Communication Notebooks: When the communication needs of an individual user are quite significant, devices must be designed to organize a great deal of vocabulary. Large systems that may combine pictures, phrases, words and photographs are often housed in notebooks or binders. Typically, the content is organized by category or setting. There may be "tabs" on each page, designed to assist the user and their partners with the location of vocabulary. In some cases, encoding techniques using colors, letters or numbers are used. The development of these large systems is quite labor intensive, and it is helpful to get advice from an experienced clinician before embarking on such a project. Refer to Appendix G for an excellent handout on notebook construction (Kravitz, Cassidy, Reggio & McLaughlin 1997). Once completed, a color photocopy of the device should be made.



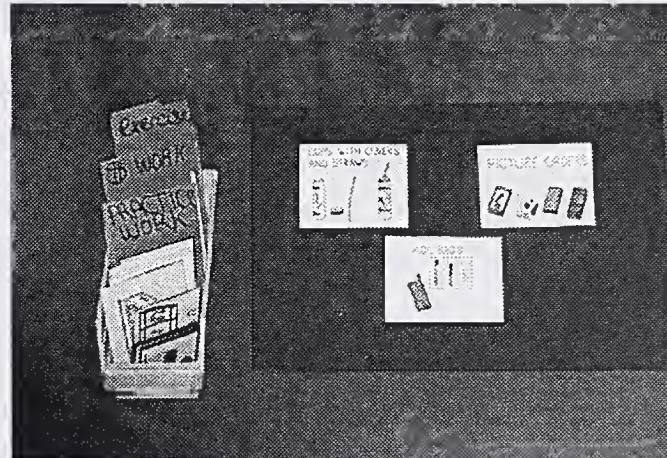
Lap Trays: Lap tray systems are handy for non-ambulatory people who would normally use such devices for seated support or as an activity surface. Appropriate symbols should be selected and arranged based on the various skills (i.e. range of motion, literacy, visual acuity and scanning, etc.) and needs of the user. Since lap trays are used for a variety of purposes, it is best if the AAC device is mounted on vinyl or mat board and covered with clear contact paper. The lap trays themselves should be constructed in two layers; the bottom layer should be a stiff, durable resin, while the top layer should be a clear plastic. It has been our experience that

when Plexiglass materials are used for the top layer they are more likely to crack, and that corners often chip off; Lexan is a much more resilient clear material. The AAC device should be “sandwiched” between the layers to protect it from water damage, spilled food, and other wear and tear.



Mini-boards: Sometimes, large picture devices are cumbersome and difficult to manage. Non-ambulatory AAC users who have lap tray or notebook systems may spend time out of their chairs pursuing work, leisure or relaxation. Setting specific devices may be needed to communicate during those activities. For easy access, mini-boards can be developed and stored or mounted near the area where they will be used.

Dynamic Choice Displays: Some users with limited picture skills, or those who may be learning to use a new picture, may benefit from simple choice displays that can be created and modeled during functional activities. Small, raised displays covered with Veltex can be placed on activity tables. Picture vocabulary specific to the environment should be available to arrange on the displays when modeling opportunities arise. These pictures should be colorful, large (2" - 3") and covered with clear contact paper. A small piece of hook Velcro fastened to the back of each will allow for the creation of displays and storage on larger Veltex wall boards for easy access.



Conversation books: Conversation books are small albums or notebooks which might contain photographs, magazine clippings or mementos of recent events, favorite topics, etc. The items are generally labeled for the communicative partners' benefit. Captions provide information regarding the items in the book as well as ideas for conversation. They are used to facilitate social closeness and relationship development by providing a way to initiate and maintain interactions with others. The size of the notebook and contents will vary depending on the user, but it is generally wise to protect pages with clear contact paper (having a color photocopy of the book is also helpful!).



Alphabet Boards: Alphabet boards are usually small displays with letters and numbers. They are handy as spelling aids or to provide phonemic cues to assist with unintelligible speech. These small devices should be mounted on mat board or vinyl and covered with clear contact paper. They can be placed on lap trays, armrests, walls or in small notebooks for easy access.

Several companies produce pictures designed to be used on AAC devices. We have found the Boardmaker software program by Mayer-Johnson to be a wonderful, time saving resource. When a novel situation or activity requires a unique drawing, we simply draw one (see Appendix H for some examples of customized line drawings).

Multimodal Training Environments

With all this emphasis on modeling by communication partners, it becomes clear just how necessary it is for the SLP to invest time training staff in procedures and modeling techniques. Moreover, beyond understanding and implementing programs designed for individual participants, it is important for program staff to understand the concept of multimodal communication. This is a technique which stresses the active use of the variety of modes of communication previously described. Verbal communication is supported by the use of simple sign and gestures. Objects in every environment are referred to and used during choice making activities. Picture communication devices (and the use of electronic aids) are modeled throughout functional activities by all communication partners.

We are constantly looking for ways to increase communicative opportunities within program environments. By integrating the use of an AAC tool, we can often make communication accessible to a group of program participants. (Refer to the sections on therapeutic program environments for suggestions on embedding the use of light and high technology to enhance communication and environmental control.)

Chapter Four

Techniques for Managing Large Groups: Minimize Down Time and Maximize Learning

In a typical day habilitation program two staff people may be responsible for eight or more individuals. Instructors may have a tough time keeping everyone engaged. Program participants frequently need one-to-one assistance to accurately perform tasks. This usually means that people spend a lot of time idly waiting their turn.

Our first suggestion is to divide the group in half. Both smaller groups can easily share the same program space, but now one staff person is primarily responsible for a group of four participants. When groups are divided, the environment seems less chaotic. Each instructor has more clearly defined responsibilities, so all group participants should get more attention.

Next, we help staff develop a small list of functional activities that might take place in each environment. We encourage creativity, while maintaining simplicity and opportunities for repetition. These group projects should be easy to contain and keep organized. For example, an activity can be laid out on a tray and moved around the room from one person to another. If appliances or tools are needed, they can be set up on an accessible counter or table, and each person can take a turn going to that work station.

Finally, and most importantly, we brainstorm with staff to develop activities that individuals in each group can independently work on while waiting to participate in the chosen group projects (ideas for these activities are found in Chapter Five). The materials for these independent activities should be stored on accessible shelves and labeled with pictures to assist with organization and choice making. Individual activities should be made from materials that are related to the environments in which they will be used. For example, in an arts and crafts group the individual tasks are made with paint brushes, colored pencils, or other craft related materials. When doing food related projects, the individual tasks are made with cooking implements, pot holders, silverware, or other kitchen items.

It is important that everyone in a group has something to do while they are waiting their turn for one-to-one time. Once everyone is seated, have them select (if they can) a task or activity and place it on the table in front of them. Some participants will be able to independently interact with their individual task, while others may need intermittent

prompts.

We have found that by setting up a variety of tasks that can be used to stimulate individual program participants, “down time” is greatly reduced and self stimulatory behaviors decrease. Independent choice making occurs more naturally, especially if tasks are accessibly stored. The organized group activity, which provides essential one to one learning opportunities, should be kept simple so program participants can do most of the work.

Chapter Five

Maximizing Program Space: Establishing Stimulating Activity Environments with Clearly Defined Routines

People are stimulated by the sights, sounds, smells and other sensory information from their particular surroundings at a given moment as well as by the memories of what has happened in these specific locations in the past. They are cued to perform certain routines, anticipate events, and behave in certain ways based on where they are. In some programs, however, people are confined to one space throughout the day. The activities may change, but the surroundings are constant. People may experience "Work", "Music", "Relaxation", "Lunch", "Self Care", and "Crafts" periods in the same room while sitting in the same seats. In these instances participants can be confused about expectations. Boredom and lack of motivation can result.

We strongly recommend that the day programs provide a variety of clearly defined and stimulating program spaces. This takes effort and planning, but it does produce a number of important benefits. By using multiple spaces, fewer people use a particular space at any one time, resulting in less confusion and fewer distractions. Individualized programming can be delivered in smaller groups, and people with similar needs can be grouped together. For example, a small group of people who require maximum stimulation to maintain a high arousal level can be in a sensory stimulation environment together. Those people who require a quiet, relaxing environment can use that same sensory space but at another time. Well established and consistent routines should be designed specifically for each space. Individuals, cued by the space and the objects they see in it, will learn to anticipate events. This will enable them to participate more fully and independently.

The process of developing discrete program spaces begins by examining the available resources and posing some key questions:

1. If there are already separate rooms in the facility, what is the ideal function of each of those rooms?
2. If there is one large, open space how might it be partitioned to better define activity areas?
3. Are there some areas that will need to have multiple uses? (For example, will

people need to eat in the same space where other activities are conducted?)

4. What is the rationale for each chosen activity area?
5. What general therapeutic goals can be addressed in each environment?
6. How many staff are available to lead groups in each space at each scheduled time slot?
7. How can people in the program be grouped together for maximum therapeutic growth?
8. What are the primary activities that will happen in each space? Will new equipment and materials need to be purchased?
9. What are the consistent routines that will occur in each environment?
10. How will program supplies and equipment be stored and maintained for each defined activity area?
11. Which staff person(s) will be assigned to manage each environment? Will they be responsible for maintaining and repairing equipment, organizing the materials in the space, and working with consultants to develop new, meaningful activities related to that treatment area?
12. How can technology be used to increase independence in each activity area?

Recommended Program Areas

In this section we describe program environments in which adults with developmental disabilities have positively responded. For each environment we outline a rationale, propose therapeutic goals, list space requirements, illustrate a routine, describe a variety of meaningful activities and share some frequently used adaptations. We also provide suggestions for communication enhancement and environmental control.

A Note on Cognitive Levels:

Throughout the descriptions we differentiate between activities that are appropriate for “Sensory-Motor” level and “Concrete Operations” level participants. These terms come from Jean Piaget’s classic work on cognitive development. Many cognitive scales and measures have been based on Piaget’s descriptions. During the Sensory-Motor stage an individual moves from purely reflexive activity that centers around physical sensation toward an understanding of some simple patterns in the environment. During this stage an individual learns that a hidden object still exists (Object Permanence), specific actions can have a predictable outcome (Cause and Effect), actions such as grabbing, mouthing,

banging, etc. can be tried on any different object (Schemes for Relating to Objects), items can be turned around, inserted or stacked (Construction of Objects in Space), and very simple tools can be used to retrieve desired items (Means for Attaining Ends).

Many activities chosen for people at the Sensory-Motor level are intended to stimulate the development of these concepts. Hiding an edible in a lunch bag, or a series of containers, reinforces object permanence. Use of switches to gain attention, or to turn on vibrators, music, light shows, or kitchen appliances promotes cause and effect. Grabbing, shaking, banging, and other basic object schemes are used when sensory boards are explored. Opportunities for insertion and stacking stimulate the simplest kind of constructions with objects.

During the Concrete Operations stage, an individual moves from a basic understanding of simple patterns in the environment to the beginning of abstract thought. Concepts which develop during this stage include "Classification", "Seriation", "Number" and "Mental Imagery". Many activities that are suggested for an individual at this level are intended to stimulate the development of these concepts. Sorting by type of object, color, size and shape addresses the concept of classification. Using left to right sequence patterns and completing work tasks that require organization by increasing size (like putting drill bit sets into their frames) promotes seriation. The concept of number is being taught as individuals use two or three dimensional counting jigs to complete count and package tasks. Mental imagery is required in object to picture matching for match and package tasks, and activities that require design copying.

Currently, we are encouraged to think in terms of the levels of support required for individuals to perform a range of functional activities. First, however, it is important to match an individual with activity opportunities that are appropriate for their cognitive level. Even with maximum supports in place, an individual functioning within the early stages of the Sensory-Motor level is not an appropriate candidate for a fine motor-work setting. Conversely, a person who is functioning within the later stages of the Concrete Operations level will have little need for an environment focused on sensory exploration.

We rely on developmental information when planning therapeutic goals. We use our developmental assessments to justify and support working within a hierarchy of functional skills. We advocate using this information to describe and label *skills*; not to limit the way we think about people.

A Note on "Environmental Managers":

As we have suggested, it is helpful to use case managers (or other direct care staff) when delegating tasks related to "environmental/room management". If each of your program staff are assigned a program space to manage, with materials within those areas to monitor and help maintain, therapeutic activities are more likely to be conducted without disruption. We have observed that assigning staff to specific areas works best when their individual interests are considered. The avid gardener should be

assigned to manage the horticultural activities, while the person with a physical education interest takes on the gross motor area.

A Note About Construction of Activities and Adaptive Equipment:

Throughout the following sections we provide directions for constructing therapeutic activities and adaptations out of wood, plastics, and splinting materials. Jig saws or power drills are used for many projects. Do not try to use these tools unless you have experience with them and feel comfortable using them. Remember to take safety precautions when using these tools: wear eye protection, tie back loose long hair, and stabilize the materials securely. We also recommend the use of PVC cements and spray adhesives. Carefully read the directions and precautions on these containers. Use them in a well ventilated area and store them in a locked cabinet or other area secured from program participants.

GROSS MOTOR AREA

RATIONALE

A gross motor or exercise environment has many benefits. An outlet for excess energy is provided, overall arousal levels can be increased or decreased, and physical therapy objectives can be addressed. Individuals can be introduced to a lot of the equipment that is available in health clubs and develop the skills necessary for use of these facilities in the community. Since gross motor skill acquisition precedes fine motor skill acquisition in normal development, many individuals with very limited cognitive capacities are more responsive to these whole body experiences than to table top activities. Rounded posture, limited ability to look up and reach for things, limited proximal stability, incomplete wrist extension, and insufficient grasp and pinch strength are common observations made of people in fine motor-work settings. Reaching, weight bearing, pulling, and pushing activities completed in the exercise environment can positively effect future performance of fine motor-work related activities.

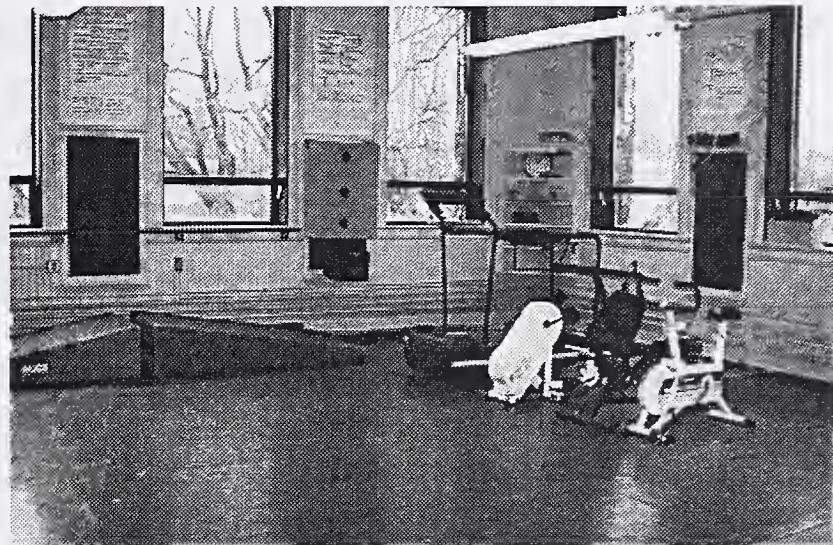
Both gross motor areas and sensory exploration spaces are often recommended in programs for developmentally delayed adults. Gross motor activities require movement of the whole body. Sensory exploration programs can include some whole body experiences as well as more fine motor based switch activation and tactile exploration activities. In many programs one sensory-motor space results that is filled with fitness equipment, positioning devices, vestibular (movement) equipment, furniture chosen to promote relaxation, switch activated devices, sensory exploration materials, aroma therapy materials, etc. This kind of combined use area can become difficult to manage. If possible, it is best to separate the more active exercise materials from the fine motor and relaxation items.

GENERAL THERAPEUTIC GOALS

- To maintain/improve body and environmental awareness through sensory stimulation (vestibular, proprioceptive, tactile, visual, and auditory input).
- To maintain optimum arousal level.
- To maintain/improve the ability to assume and maintain developmental positions (prone on elbows, quadruped, kneel standing, standing, etc.).
- To maintain/improve gross motor sub-skills including range of motion, strength, proximal stability, posture, weight bearing, etc. (as recommended by the physical therapy consultant).
- To maintain/improve functional gross motor skills including ambulation (with assistive device if needed), ramp skills, stair climbing, moving from one developmental position to another, wheelchair mobility, etc. (as recommended by the physical therapy consultant).
- To maintain/improve sensory integration skills including motor planning, eye hand coordination, bilateral motor coordination.
- To maintain/improve general fitness and independent use of age appropriate fitness equipment.
- To maintain/improve ability to participate in modified but age appropriate sports.

PHYSICAL SPACE

A large, well lit room is filled with exercise/sensory-motor equipment. There should be a folded mat or bench for individuals to sit on at the beginning of the exercise period. Individuals can sit here for warm ups, they can rest here between activities, or they can wait here for a turn at a group game. Exercise stations should be spaced around the room, perhaps even mounted on walls. Cardiovascular equipment (e.g. treadmills, recumbent and traditional style bicycles and mini-tramps) should be clustered together. Large relaxation/reclining seats and positioning devices should be located in a quiet corner, away from the area where noisier activities (e.g. bowling, basketball, ring toss, use of scooter boards, etc.) will occur.



SUGGESTED ROUTINE/FORMAT FOR GROUPS

1. Participants come into the exercise room and sit on a large folded mat that forms a bench like seat.
2. A warm up routine geared to the level of the group begins.
3. Most individuals are set up at exercise stations where they can perform activities

with near independence. Some can take turns on the cardiovascular equipment.

4. One on one therapy programs are completed with targeted individuals.
 5. The group ends with a simple routine like slapping high fives, getting a drink of water, or putting exercise equipment away.

INDEPENDENT ACTIVITIES

A stimulating sitting or reclining position is a passive independent experience that can be enjoyed by Sensory-Motor level individuals. Cozy seating options like bean bags and crash cubes may be reserved for a sensory exploration space, but equipment that takes up a significant amount of space is more suited for a gross motor environment. Examples of stimulating resting spots include:

- A ball pool (the balls provide the body with deep proprioceptive input).
 - An air flow mattress.
 - A large vestibular chair (made by Toys for Special Children).

Activities that require simple actions like pulling, inserting, stacking, and hanging with exercise materials can often be completed with minimal supervision. The following exercise station tasks are recommended:

- Completing a Veltex board bean bag pull (see description).
 - Inserting textured balls through an opening in a cover made for a milk crate style box.
 - Dropping bean bags through holes in a vertically mounted target game.
 - Stacking large rings on a ring toss post.
 - Hanging rings on wall mounted hook or post racks (see description).

Once it has been determined that an individual can safely use a piece of cardiovascular equipment without the need for constant monitoring, this too can become independent activity.

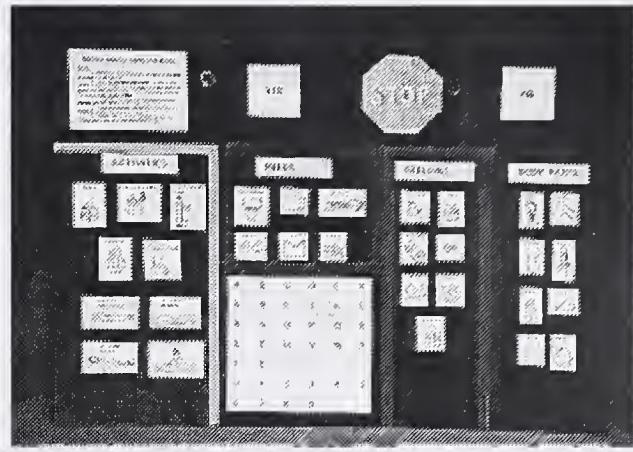
COMMUNICATION AND ENVIRONMENTAL CONTROL

In a gross motor environment, during exercise and relaxation activities, participants who use communication notebooks, lap trays or electronic devices may not have easy access to those tools. In that case, it is helpful to post pictures of activity choices on mini-boards or dynamic wall displays.



Many participants have one-to-one physical therapy needs. We have successfully used a

mini-board posted in the physical therapy area which contains vocabulary related to feeling states, body parts and medical needs. Having an outline of a body on this mini-board is helpful, as are the names and/or pictures of the nurse or program physical therapist. Messages such as "Stop", "Yes" and "No," are also suggested, along with an alphabet display for people who can spell or letter cue.



Simple digitized voice output devices can be mounted on walls or on pieces of exercise equipment. Messages might include "I want to stop/get off", "Nice shot!", "Let's play a game", "Time to stretch", or "How about putting on some music?".



DETAILED ACTIVITY DESCRIPTIONS

ACTIVITY: VELTEX BOARD BEAN BAG PULL

DESCRIPTION

The individual stands, high kneels, or sits on a T stool, bolster or other seat that demands balance responses in front of a wall mounted Veltex covered board. Several bean bags are Velcroed onto the board at or above shoulder height. Although bean bags have been chosen for the activity because they are often used in adapted sports, other more tactiley stimulating materials can replace the bean bags. Colored rings with bells on

them, simple musical instruments, and (for children) a variety of tiny stuffed animals have been successfully used. A box is provided to put the bean bags into. The box can be mounted to the wall or it can be placed on the floor. The individual reaches for the bean bags pulls them off the Veltex, and puts them in the box.

DESIGN/CONSTRUCTION

1. Measure the area of wall space that you would like to devote to your reaching station. Two feet in width is plenty. You may want to have about four feet in height to accommodate short people who are reaching from a seated position and tall individuals who are reaching while standing.
2. Cut the base for the Veltex from 1/4" thick plywood or TriWall.
3. Drill holes through the corners of the base and the middle of the sides so that you can eventually attach the board to the wall.
4. Cut a piece of Veltex fabric about 6" longer and 6" wider than the base so that you can wrap the excess around to the back side.
5. Use spray adhesive to stick on the Veltex. (Some brands of spray adhesive work

- better than others. The best is "STA-PUT" Adhesive which is sold by the Veltex manufacturers). Spray both the back of the Veltex and the front of the board. Wait as directed on the spray can. Press the board onto the Veltex.
6. Cut out the corners of the Veltex.
 7. To make a good bond, carefully spray a bit of adhesive around the edges of the back before you wrap the Veltex around.
 8. Use an awl to poke holes through the fabric where your pre-drilled holes are so that you can poke Molly screws or other recommended fasteners through the board.
 9. Consult the building maintenance people at your facility as to how to best mount the board given the type of wall material and stud locations that you may be dealing with. Mounting things to walls can be extremely frustrating, so we're thrilled when the maintenance department offers to put up the boards for us!

THERAPEUTIC ANALYSIS

The task demands only very simple actions: pulling off an item and putting it into an open container. Many developmentally disabled individuals show some or all of the following characteristics: they keep their heads bent down, they show flexed postures, their reaching ability is limited, and their wrists are not adequately stabilized in extension. This activity promotes looking up, extending the trunk, reaching, and wrist extension.

ACTIVITY: RING HANGING BOARDS

DESCRIPTION

The individual stands at the ring board station, picks up one ring at a time from a bin filled with rings, and hangs each one on a hook. Reaching up as high as possible is encouraged. People that understand one to one correspondence will be able to hang just one ring on each hook, but others may load one hook with several rings. In tailoring the activity for a specific individual remember that the larger the opening in the inside of the ring the easier it is to hang, and it is easier to orient rings to straight pegs than to curving hooks.

DESIGN/CONSTRUCTION

Hooks or pegs can be attached to wood strips. When strips are mounted horizontally there are several opportunities for an individual to hang items at the same level with one to one correspondence. When the wood strips are mounted vertically, progress in reaching to a higher level can be more easily measured. Small metal pegs are more durable than thin dowel pieces for hanging boards. We cut thin steel rods with a hack saw, file the ends so that they are not rough, and glue them into pre-drilled holes on a strip.

THERAPEUTIC ANALYSIS

As with the Veltex board bean bag pull, looking up, extension patterns, reaching, and wrist stabilization are promoted. This task requires more eye hand coordination, perceptual orientation, and complex cognitive ability for construction with objects than the pulling task.

ACTIVITY: ADULT SIZED SCOOTER BOARD

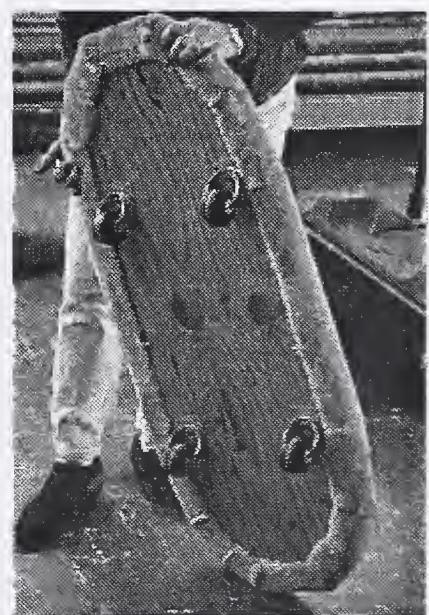
DESCRIPTION

Individuals lie in a prone position on the scooter board and use their upper extremities to propel themselves forward. The board is longer and wider than the usual scooter board to support the trunk and thighs of an adult.



DESIGN/CONSTRUCTION

1. 3/4" thick plywood should be strong enough for adults weighing less than 200 pounds. Cut a rectangle 3' by 17".
2. Measure 3 1/2" from each corner along the short side of the board and 5" in from each corner along the long side of the board. Mark the diagonals between each of these sets of two spots and cut off the triangles. Sharp corners could make pushing awkward. Cutting all four corners is recommended so that the individual can lie on the board in either direction.
3. Cut a piece of 1/2" foam that is the same shape as the scooter board (this step is optional, but it makes the end product more comfortable).
4. Next you will need a carpeting scrap that is 5-6" longer and 5-6" wider than your board. Turn it upside down. Trace the shape of the scooter board. Mark a second line adding 2 1/2-3" around all edges. Use heavy sheers to cut the carpeting on the outside lines. Trim triangular shapes out of the corners so that you can fold the carpeting around to the back of the board.
5. Place the foam on the board with the shaped carpeting on top of it. Turn the board over. Use carpet tacks to secure the rug to the bottom of the board.
6. You now need four casters. Make sure you've found ones that allow the wheels to turn in all directions. We've found that casters that have wheels with a diameter of less than 3" tend to stick. Pushing a scooter board with small wheels feels resistive. When wheels that are wider than 3" are used there is more result for less effort. Evenly space the casters on the bottom of the scooter board and mark the holes in the caster bases with a pencil.
7. Pre-drill the holes for mounting the casters.



8. Screw on the casters.
9. Try the scooter board yourself to see how it feels!

THERAPEUTIC ANALYSIS

Scooter board use promotes extension patterns, proximal stability in the shoulder area, and stabilization of the wrists in an extended position. Some individuals will feel more comfortable sitting on the scooter board than assuming the prone position. This is physically less therapeutic, but sitting balance is addressed and cause and effect relationships are demonstrated as individuals move when they push with their legs.

OTHER ACTIVITIES

VESTIBULAR STIMULATION ACTIVITIES

- Bouncing on therapy balls.
- Jumping on mini-trampolines.

BALANCE ACTIVITIES

- Sitting on a T stool.
- Balancing on a bolster (extension of both legs across the top surface of the roll demands more balance than if the feet are on the floor).
- Sitting, kneeling, or standing on tip boards.
- Walking across a low balance beam. Variations on balance beam activity can include bending down to pick up objects while standing on the balance beam, walking sideways on it, walking backwards on it, etc.

POSITIONING ACTIVITIES

- Using a side lyer, stander, wedge or other special equipment as recommended by a physical therapist.

BASIC GROSS MOTOR ACTIVITIES

- Stair climbing.
- Ramp walking.
- Maintaining targeted positions with or without equipment.

ADAPTED SPORTS

- Parachute activities.
- Ball in basket activities.
- Target games.
- Bowling.
- Obstacle courses.
- Stretchy tube activities.
- Ball rolling/toss activities (Velcro catch can be a good activity).

FITNESS ACTIVITIES

- Treadmill.

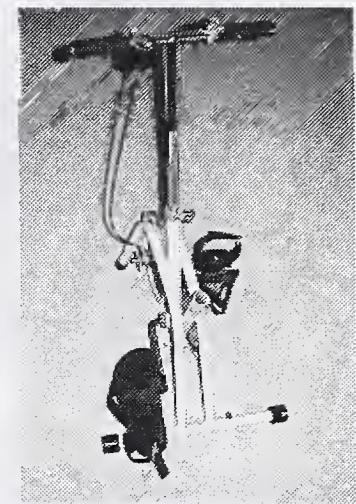
- Exercise bicycle.
- Recumbent (or semi-recumbent) exercise bicycle (The wider, lower, more comfortable seat does not require as much balance, is easier to get onto, and is less intimidating than the high perch of a regular bike).
- Pulleys.
- Wall pegboards.

ADAPTIVE EQUIPMENT

ADAPTATION: SANDAL PEDALS FOR EXERCISE BIKES

DESCRIPTION

Many individuals with poor lower extremity control or significant cognitive limitations have difficulty keeping their feet on the pedals of an exercise bike. The loop type toe straps on some machines may not offer enough stabilization. We have had some success adapting pedals with the largest, cheapest, Teva style sandals that we can find. First sew extensions onto the Velcro straps so that they can reach around shoe covered feet. Then place a sandal on a plastic pedal (making sure you have the shoe on the correct side!) and drill 2-3 holes through both of them. Use nuts and bolts with washers to attach the sandal to the pedal. Repeat this process for the other foot. (Pictured here is an exercise bike with the seat removed that was adapted with sandal pedals for a man with cerebral palsy to use while seated in his wheelchair.)



ADAPTATION: TREADMILL GUIDE

DESCRIPTION

Some individuals have difficulty staying in the center of a treadmill. They may veer to the left or right to step off the edge of the rotating belt, or they tend to drift backwards and need a staff person's physical prompt to keep them on the machine. A guide to prompt a person to stay in the center of the treadmill, reducing the need for a staff person's assistance, can be constructed. This guide should be a 2" to 3" thick rectangle with a curved cut out to line up with the walker's stomach. It can be cut out of foam (an electric knife works well to cut foam) and covered with vinyl fabric. It should be wedged between the two side bars and pushed up against the front of the treadmill. Velcro loops sewn to the edges of the guide can wrap around the railings of the treadmill to keep it in place. Thick Velcro straps need to be sewn on to the curved cut out section of the guide to wrap around the



back of the person exercising. This strap prompts the individual to stay forward on the treadmill. (Make sure to sew the straps into the vinyl at the seams; the vinyl rips easily if straps are sewn to unbroken stretches of fabric.)

SENSORY EXPLORATION/RELAXATION SPACE

RATIONALE



Many individuals in Day Habilitation programs are cognitively functioning at the early levels of the Sensory-Motor stage and can participate only minimally in many of the offered activities. They are often described as lacking in motivation and initiation. When given an object, they may mouth it, shake it in front of their eyes, bang with it, tap it repeatedly against a body part, or throw it, rather than use it in the constructive manner hoped for by staff. Hand over hand assistance is often needed for individuals to perform steps of

craft, cooking, fine motor, or work-related activities. It can seem like participation in activities is a struggle and an annoyance to people rather than a learning opportunity. The sensory exploration environment is a less structured alternative designed primarily for these individuals. It is filled with materials that are safely secured to the walls to pull, spin, push, or touch. Higher level constructions with objects like insertion, hanging, stacking, assembling, etc. are not necessary here. Cause and effect relationships are promoted in this environment as individuals touch switches to activate sensory events such as buzzers, lights, music, vibrating plates, or voice tapes. Individuals are encouraged to move around the room and independently explore the alternative seats and stimulation materials. This is a very concrete way of promoting choice making and initiation.

The sensory exploration environment is also a good place to provide individuals with carefully monitored passive stimulation. Massagers and vibrators can be used with people to promote relaxation and increase body awareness. A bin of interesting textured materials can be collected. Individuals can hold/explore these items themselves, or a partner can rub the textures against the skin of the individual's hands, arms, legs, and feet. When providing stimulation it is always extremely important to be attentive to the responses of the individual; if he/she pulls away or shows signs of discomfort, respect that as a request to stop.

Activities in the sensory environment can sometimes help people to better control maladaptive behaviors. Participants that are often out of their seats, seem agitated, are distracted by extraneous stimulation, and need a lot of staff redirection may have "over-aroused" sensory systems. These individuals with high levels of arousal will come to the sensory exploration room to relax. Slow rhythmic body movement, slow

rhythmic deep pressure during massage, deep proprioceptive input through joint compression or crashing, relaxation aromas, weighted blankets (neutral warmth), soothing audio tapes, and comfortable seating can be included in a sensory diet designed to decrease arousal level. Participants that appear to be withdrawn, sleepy, and unmotivated may have “under-aroused” sensory systems. These individuals will come to the sensory exploration room to be bombarded with stimulation. Vibration, bouncing, quick rocking movements, loud rock music, bright light shows, invigorating scents, and a variety of tactile input can be included in a sensory diet designed to increase arousal level. Some individuals may be diagnosed by the consulting occupational therapist or physical therapist with sensory defensiveness. Therapists or trained program staff can provide brushing, with a soft surgical brush, followed by joint compression to those people to decrease their over sensitivity. (Note: These techniques should not be attempted by program staff unless the consulting OT or PT has recommended the treatment and trained people in the procedures.)

GENERAL THERAPEUTIC GOALS

- To improve environmental awareness.
- To enhance basic choice making and activity initiation through free exploration of all materials in the environment.
- To improve body awareness through visual, auditory, olfactory, tactile and proprioceptive input.
- To maintain optimum arousal level.
- To improve cause and effect relationships through switch activation.

PHYSICAL SPACE

A fairly small room can be more comforting than a large space for promoting relaxation. The room ideally should have no tables or conventional chairs in it because tables and chairs serve as a cue to individuals that they must sit down and participate in tasks. Mats or rugs should cover the floor. Alternative seating options such as bean bag chairs, hammocks, crash cubes and wedges should be provided. An aroma diffuser should be set up in the room. Essential oils can be changed according to the arousal needs of the group; an over-aroused group will benefit from a mix of scents that promotes relaxation while an under-aroused group will respond more to a blend of smells that is known to be invigorating. Lighting should not be harsh; dim lighting can be more relaxing. If the room has windows there should be dark shades on them so that light is adequately blocked out for slide shows and light displays. Most sensory boards, spinners, and switch activated devices should be mounted on the walls at a low level so that individuals always have access to items and can reach them while seated in bean bags. Materials used for passive stimulation (massagers, vibrators, lotions, etc.) should be safely stored out of reach of program participants. A sensory space is best used with small groups of four people or less at a time especially when relaxation techniques are being used.

SUGGESTED ROUTINE/FORMAT FOR GROUPS

The sensory room is used in two very different ways. It can be a “break” space in which people can independently explore their surroundings. People can be actively engaged with the materials or they can passively relax in comfortable floor seats. When used as a “break” space no structure is imposed. The sensory environment can also be a place where a therapist or group instructor provides stimulation for several individuals with similar needs at the same time. In this case the routine would be that people come into the room and make themselves comfortable in the available seats which can be moved close together in a sort of circle to best facilitate the instructor’s capacity to move from one person to the next. Predictability can enhance relaxation, so the same sequence of relaxation activities might be used during each session.

INDEPENDENT ACTIVITIES

Everything that is within easy reach in the environment can be an independent activity. Items that are often mounted on walls for people to explore include the following:

<u>Item</u>	<u>Source</u>
- Sensory Boards	See Detailed Description
- Spin Boards	“
- Keyboards in Frames	“
- Switch Activated Musical Choice Boxes	“
- Switch activated vibrators, light shows, music boxes, fans, and multifaceted activity centers	Flaghouse “Special Populations”, Toys for Special Children, Jesana Ltd.
- Hanging chimes, spinning mirrors, and other tactile exploration materials	“

“Snoezelen” means gentle, relaxing, sensory stimulation. Several pages in many adaptive equipment company catalogs (such as Flaghouse “Special Populations”) are devoted to “Snoezelen” equipment. These companies make fantastic sound and light show devices for sensory exploration environments. The equipment is extremely expensive, however. It is fun to look at their ideas, perhaps order a few of their less expensive items, and create a simpler sensory space.

COMMUNICATION AND ENVIRONMENTAL CONTROL

Relaxation and sensory exploration activities are often pursued out of seated positions, and participants who use AAC may not have easy access to their devices. Setting specific picture choice displays and mini-boards may be helpful.

Many individuals who make use of sensory environments rely on non-symbolic communication modes to express themselves. It is important that staff who manage the

sensory area, and who conduct sensory groups, are well trained in multi-modal communication techniques. Facial expressions, gestures, changes in body movements and vocalizations will often be the primary indicators to communication partners about feeling states, wants and needs.

Simple digitized voice output devices can be used in the sensory space with messages like "I want to hear some music", "Let's rock!" or "How about a hug?" A variety of environmental switches to control light shows, slides, smells and auditory stimulation should also be used.

DETAILED ACTIVITY DESCRIPTIONS

ACTIVITY: POLYPROPYLENE SENSORY BOARDS

DESCRIPTION

Stimulating materials are firmly secured to a base so that they will not be thrown, dropped, or mouthed. Basic rectangular sensory boards can be clamped to tables, slanted work surfaces, or wheelchair trays. They can be cut out in the shape of a wheelchair tray for a neat fit for people in wheelchairs (arm rest brackets and straps are added to secure trays onto the chairs). The bases for sensory boards can be made of plywood, TriWall, or pegboard, but we like to use 3/8" polypropylene or polyethylene. This material can be sprayed with disinfectant and wiped clean. Objects that can be secured to the base for exploration include tiny battery operated musical toys, small plate switches, slinkies, springs, paint rollers (the rough ones are especially good), brushes, "Magic Muffies" (satin or velour muffs that can be twisted inside out to expose new colored panels), rough tactile rings or balls, bead on wire type toys, etc. If textured cloths, sandpaper, etc. are glued to the base, the board will not last as long since drool and other spills cannot be cleaned from the surface.



DESIGN/CONSTRUCTION

First collect all of the sensory materials that you would like to include on the board. This will help you to determine the final size. The polypropylene can be cut with a saw. A jigsaw allows you to cut out a wheelchair tray shape. All materials should be securely fastened to the tray. Items like tiny battery operated musical instruments can be screwed onto the tray. Other items can be tied or sewed onto the tray with durable sewing elastic. We like to drill a pair of holes through the base for each item that will be attached with the elastic. All objects also need to have holes through them or a durable ring attached to them. Each object is then secured by threading 1/4" sewing elastic

through its opening, poking each end of the elastic through a base hole, and securely tying or sewing the ends of the elastic together on the back of the tray.

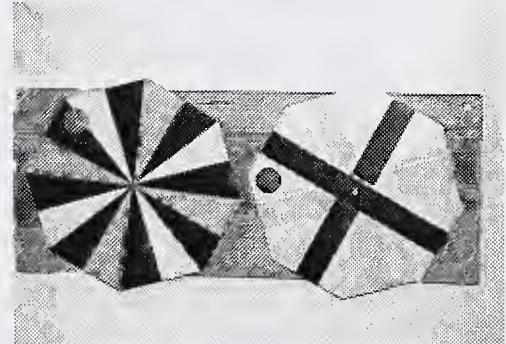
THERAPEUTIC ANALYSIS

Sensory boards are best for individuals who function within the Sensory-Motor stage of cognitive development. They can include materials that are visually, auditorily and tactiley stimulating. Boards should always be clamped or otherwise secured. They can be mounted on walls in sensory exploration environments or screwed or clamped to slanted work trays. These boards are meant to weather heavy use, so they can be used by individuals that actively explore their surroundings and roughly grab at interesting materials. Because there are no small parts, and items can not easily be brought to the mouth, these boards make ideal independent leisure activities for individuals with mouthing behaviors.

ACTIVITY: SPIN BOARDS

DESCRIPTION

Individuals spin a colorfully designed disc to watch the blending colors and listen to the whirring sound. Spinners can be mounted to a wall in a sensory environment, attached to a slanted work surface, mounted to a plywood or plastic base, or included as a part of a sensory board as described above.



DESIGN/CONSTRUCTION

You will need a Lazy Susan mechanism, a wood or plastic base, a large flat wood or plastic disk (or a cut octagon shape), some brightly colored paper, a glue stick, contact paper, sticky backed hook and loop Velcro, 4 small wood screws, 2 longer wood screws, and 1 knob.

1. Cut your base. Make sure the base is significantly bigger than the spinner so that a clamp will not block the movement.
2. Prepare the piece for the spinner. We like to use 1/8" thick plywood and cut it in an octagonal shape.
3. Cut a piece of colored paper the same size and shape as your spinner. Cut additional pieces of contrasting bright colors to create a design and glue them on top. Glue the whole design to the spinner, but don't worry if it doesn't stick that well.
4. Cut a piece of contact paper quite a lot larger than the spinner. Peel off the backing and place the front of the spinner on the sticky paper (this is easier than trying to place the sticky paper onto the spinner). Firmly wrap the contact paper around the edges and secure it to the back of the spinner (you will need to cut out triangular pieces at the corners of the octagon so as to cover the spinner).

- without folding the contact paper).
5. Screw the knob securely onto the edge of the spinner piece.
 6. Screw the Lazy Susan mechanism onto the center of the base.
 7. Stick the loop Velcro onto the moving top square of this hardware.
 8. Stick some hook Velcro onto the center of the back of the spinner.
 9. Drill a hole through the center of the spinner. Turn a screw through this hole down into the base. This screw is there to keep people with a strong grip from being able to pull the Velcroed spinner off the base. Make sure your hole is big enough, however, so that the spinner continues to freely move.

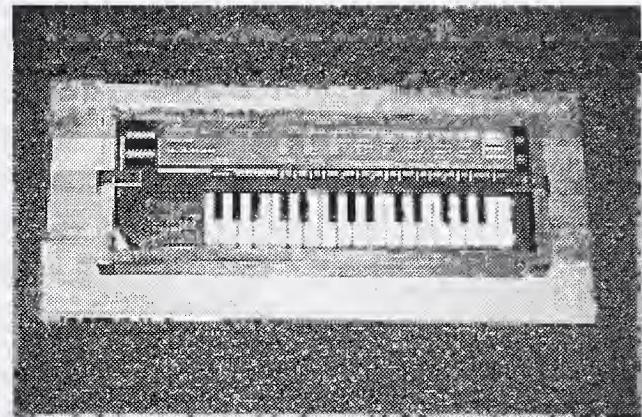
THERAPEUTIC ANALYSIS

This a pleasant cause and effect activity for people functioning within the Sensory-Motor stage. The activity is contraindicated for individuals with seizure disorders, as watching this spinning movement can trigger seizures. When the base is securely clamped or mounted this becomes another good individual leisure time activity for those that are prone to mouthing, throwing, or dropping.

ACTIVITY: KEYBOARDS IN FRAMES

DESCRIPTION

There are many battery operated keyboards for under \$75.00 that have preprogrammed tunes, weird sounds, rhythms, etc., that play as buttons are touched. These can be very stimulating for blind individuals and others who are motivated by auditory effects. A frame base can be built so that the keyboards can be clamped to a table or tray.



DESIGN/CONSTRUCTION

For the base you will need a piece of wood that is wider than the depth of the keyboard and a bit longer than it is to allow room for clamping. Strips that measure the same as the maximum height of the keyboard will be used to form the frame. Straight braces can be screwed into the edge of the frame to keep the keyboard from being pulled out (these braces can easily be unscrewed if the batteries need changing).

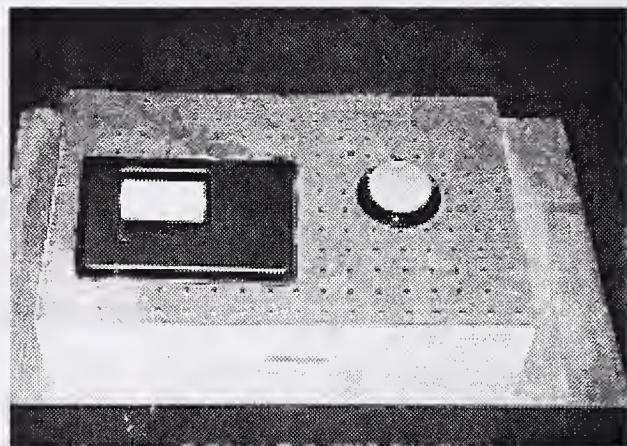
THERAPEUTIC ANALYSIS

These keyboards make another great independent leisure activity when clamped to a surface. The buttons on the keyboards are a lot smaller than the large switches often used for turning on many tape players and radios. Digit isolation and visual/tactile scanning are encouraged through this activity.

ACTIVITY: SWITCH ACTIVATED MUSICAL CHOICE BOXES

DESCRIPTION

A large box with a pegboard cover has two switches on the top. When the individual hits one of the switches, distinctive music is heard (perhaps a tape of harp music and sea sounds intended to enhance relaxation is the result). If the other switch is activated a very different type of music is turned on (perhaps a heavy metal band is heard). Of course if both switches are touched at the same time, there is a fairly annoying conflict of sound. Musical choice boxes can be clamped to a table or mounted to a wall.



DESIGN/CONSTRUCTION

Adapt two tape players with battery interrupters and plug the jacks from two timers into them. Pick or make two switches to plug into the timers. The switches can be simple, colorful pad switches (like the Big Red or Jelly Bean switches sold by Able Net, Inc.), skill switches chosen to require finger isolation, grasp strength, pinch, etc., or switches that are easily activated by very light touch or minimal movement (leaf switches, string switches, etc.). Now a person can make a music choice. However, it is tempting to pull at the loose wires, and it is visually confusing to look at the tape players and timers as well as the switches. A simple box can be made to house all of this mess. The plywood base needs to be big enough to allow space for clamping after a box has been built around the equipment. Pick strips of wood that are as wide or wider than the height of the tape recorders and cut 2 length pieces and 2 width pieces that are just big enough to contain the timers and tape players. Glue and nail the frame onto the base. Next cut a pegboard top that can lie on top of the frame (the holes let the sound through). Mount the switches onto the pegboard. You will need to drill a larger hole in the pegboard to feed the jack through to the inside of the box. We usually attach the top to the frame with 2 screws. It's not that difficult to remove the screws when you need to rewind the tapes or change the batteries.

THERAPEUTIC ANALYSIS

This activity is another good independent leisure pursuit that reinforces the cause and effect principle. People have the opportunity to make the connection between each switch and the very different resulting music. Day programs for adults with developmental disabilities strive to provide participants with choices; this is an example of a concrete choice within a functional activity.

ACTIVITY: CRASHING CUBES

DESCRIPTION

Each side of a giant (1 yd X 1 yd X 1 yd) stuffed fabric cube has a very different look and feel (one might be red corduroy, one bright yellow velour, one red fur with black spots, one electric blue pile, one black vinyl, and the last a bumpy multicolored upholstery fabric). It is stuffed with chunks of foam, pillow stuffing and cloth scraps. Individuals in a sensory environment can relax as they sink into this block. People can more actively crash into the cube or push it back and forth in a large exercise environment. An individual can be buried underneath the cube; this can provide a lot of calming, deep pressure input.



DESIGN /CONSTRUCTION

Find 6 different colorful, durable, and tactiley interesting fabrics like those described above. Cut a 38" X 38" square of each one. Get out the sewing machine. With right sides touching begin sewing the squares together using 1" seams. Continue to match and sew the sides of the squares until you have an inside out cube with one side left open. Turn it right side out. Stuff it with foam chunks, pillow stuffing, cloth scraps, etc.; it takes a ton of stuffing! Fold the edges of the opening underneath and hand sew the last seam. (Note: We have made cubes with two layers. The inside layer of the cube is made with waterproof vinyl squares. This cube is stuffed and sewn closed. The second layer is made with the fabrics described above. A zipper is added. If an individual has a toileting accident on the cube the cover can be removed, washed, and put back on. The vinyl can be wiped clean, and the stuffing will be protected.)

THERAPEUTIC ANALYSIS

The pillow cube can make a very relaxing nest. Individuals can experience deep pressure as they crash into the cube or get buried underneath it. Tactile stimulation is provided as the fabric squares touch the skin.

ACTIVITY: WEIGHTED BLANKET

DESCRIPTION

The individual is typically sitting in a comfortable bean bag chair, lying on a mat, or perhaps relaxing in a ball pool. The weighted blanket can be laid on top of the person, or he/she can more actively wrap up in it.



DESIGN/CONSTRUCTION

We have successfully added weights to brightly colored pile blankets (fleece can also be purchased by the yard if you'd prefer to start from scratch). One hundred and forty 3/4" washers are used for the type of adapted blanket that we have made. Start by folding the blanket in half the short way so that you have two layers that nearly form a square. Pin the edges together to keep the two halves from sliding. Sew within 1/4" of the first side, starting at the fold and stitching to the opening. Measure the width of the blanket and calculate how many rows you'll want and how far apart they'll be so that the rows will be a consistent distance apart (3-5" is good) and the last line will be right along the other side of the blanket. Continue to sew lines parallel to this first one that extend from the folded edge to the ends of the blanket. Slide one washer down each of these created tubes so that it stops at the fold. Sew a line about 4" away from the fold so that all the washers are trapped in sewn squares. Repeat the process of dropping washers into each tube and sewing rows parallel to the first one to contain the weights in small squares until you finally sew right along the last open edges of the blanket.

THERAPEUTIC ANALYSIS

The pile is a nice comforting texture against the skin. The weight provides the individual with a lot of proprioceptive input. This promotes relaxation and enhances body awareness.

OTHER ACTIVITIES

Staff led stimulation groups can include use of the following materials:

- Roller Massagers.
- Foot Massagers.
- Powerful Vibrating Massagers.
- Massaging seat covers.
- Lotions.
- Aroma therapy materials (essential oils, diffuser, scent fan, etc.).
- Textured cloths.
- Wet sensory exploration (whipped cream, ice cubes in water, doughs, putties, and other non-toxic slimes).
- Relaxation tapes.
- Slide shows.

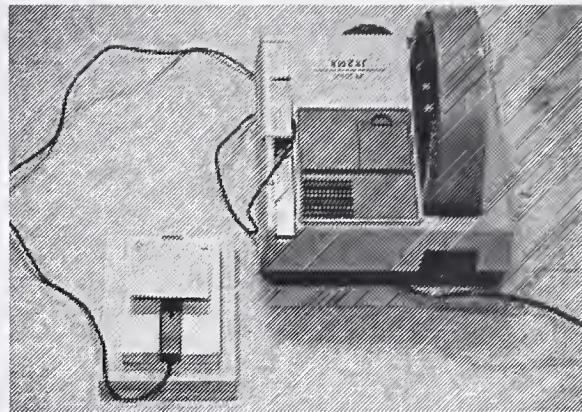
ADAPTIVE EQUIPMENT

ADAPTATION: ADAPTED SLIDE PROJECTOR ADVANCER

DESCRIPTION

If you have a Kodak Carousel Projector an adapter can be purchased through Able Net,

Inc. (to be used in conjunction with a Power Link and a switch) to enable people to advance slides with the hit of a switch (rather than just being able to turn the light on and off). If you have the less expensive Vivitar projector, however, no adapter is available. However, it is possible to build a frame to stabilize the clicker, and the button can be pushed down with an enlarged target.



FINE MOTOR-WORK AREA

RATIONALE

The primary focus in "sheltered workshop" environments is work-related fine motor activity. Sub-contract jobs are completed, and practice work activities are repeated when no real work is available. It is also appropriate to set up fine motor-work environments in day habilitation programs. Here, however, the work is completed not for payment but for the enhancement of fine motor, perceptual, and cognitive skills. As we've already stated, not all individuals are appropriate for fine motor-work environments. Most "work" requires some complex constructions with objects. Individuals need, at the least, to have the capacity to complete insertion activities before a work-related fine motor placement is appropriate for them.

Are the work-related tasks we are choosing "functional activities" or "practice tasks"? There are advocates of a "functional" model who believe that all work activities need to be either community experiences, paid piece work, production of items for sale, or activities like recycling or cleaning that meet the real needs of the program. These activities are motivating to both the workers with developmental disabilities and the staff, as a sense of true productiveness is fostered. Drawbacks of "functional" activities are that it can be difficult to engage several people at a time when the end products need to be closely monitored, "real" opportunities may not always be available (there may not be a collection of dirty cans to be rinsed and sorted), and more money for materials is required when items that are made are not reusable. Many proponents of a traditional "pre-vocational" model use practice packaging, assembly, and clerical tasks that can be completed, taken apart and redone hundreds of times. There is a sense of futility in completing a task, having a staff person discretely, or openly, undo the work, and then watching a co-worker complete the same activity. Positive features of practice work are that many individuals can be simultaneously set up, materials can last a long time, and tasks can be designed for specific individuals so that fine motor, perceptual, or cognitive skills are challenged. We believe that it is important to be aware of the strengths and weaknesses of both functional and practice activities so that you can balance your program with both types.

GENERAL THERAPEUTIC GOALS

- To improve fine motor skills (reaching, grasping, releasing, turning, pinching, tool use, etc.).
- To improve visual perception skills (orientation of pieces for packaging or assembly).
- To improve cognitive skills (sorting, matching, counting, organizing, etc.).
- To improve motor planning (learning unfamiliar movement sequences).
- To develop work habits (attention span, staying in a seat, rapid completion of given tasks, etc.).

PHYSICAL SPACE

The fine motor-work environment should be well lit. It is important that every individual be well positioned at a table of appropriate height. For this reason, several small tables at varying heights may be more useful than a few large tables or work benches. Foot rest stools may need to be used to help shorter individuals to keep their feet flat on a surface while sitting. A few standing stations may be warranted for certain jobs (heat sealing, for example, is often more easily completed from a standing position). Storage shelves should be neatly organized and labeled, especially if program participants are expected to pick out and return their own work. A free table surface may be needed for placement of completed work. Should there be music playing in the work environment? Many work activity programs we consult in have fairly loud radio music (usually Oldies or New Wave) playing in the background. This may help a few individuals to stay alert, however generally loud music is distracting and even disorganizing to program participants. We recommend a quiet work environment. If music is played it should be soft and unobtrusive. Some experimentation has been done using aroma therapy in work settings. Invigorating scents such as lemon and eucalyptus diffused into the room have heightened arousal levels without the workers' awareness and helped to increase productivity.

SUGGESTED ROUTINE/FORMAT FOR GROUPS

Individuals come into the room and go to their work stations. There may be a task at every person's place so that they can begin working right away. Otherwise the individuals will need to go to the storage shelves to choose a task or request work materials from a staff person. Participants work until the task is finished or until they run out of some of the work materials. They then request assistance or initiate getting new work or more supplies. This continues until a scheduled break time. The atmosphere is friendly and supportive but serious, and the focus is on accurate and timely completion of work.

INDEPENDENT ACTIVITIES

Any work activity that a person has already learned becomes an independent activity.

Staff need to set up individuals with these independent projects, so as to be able to monitor a large group. Sometimes, however, people spend all of their practice work time completing simple insertion tasks or other jobs that they can already accurately and easily complete.

When we've questioned this, program staff have suggested that work on "production rate", "attention to task", or "following routines" are the therapeutic reasons for repeating these same activities over and over again. We have come to suspect that what is really behind this mind bending repetition is the absence of creative staff, limited support from managers or lack of a well planned and equipped fine motor-work curriculum. All individuals should be stimulated with daily training sessions at challenging tasks that they can not yet independently complete. We endorse the use of independent activities to help make the fine motor-work environment run smoothly, but remember that skill development is the ultimate objective.

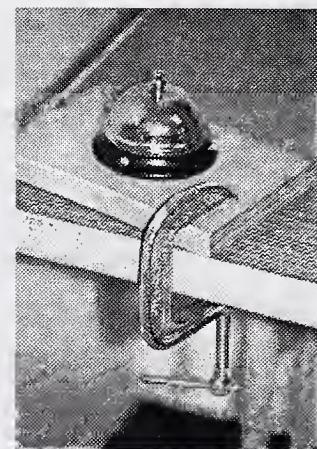
COMMUNICATION AND ENVIRONMENTAL CONTROL

In a well planned fine motor-work environment, there will be a great deal of opportunity for communication. Workers should be permitted to choose between jobs, or to select, or refuse, a "live work" option if it is available. In cases where individual AAC devices are used, vocabulary should be selected based on the demands of the work area and included in communication notebooks, on lap trays or programmed into electronic devices. For AAC users who do not have easy access to their personal tools when working, or who are just beginning to use symbols for some highly preferred jobs, posting pictures of activity choices on mini-boards or dynamic displays is a useful approach. In addition, picture labels on shelves will facilitate independent selection and replacement of work materials, as well as help organize the work area!



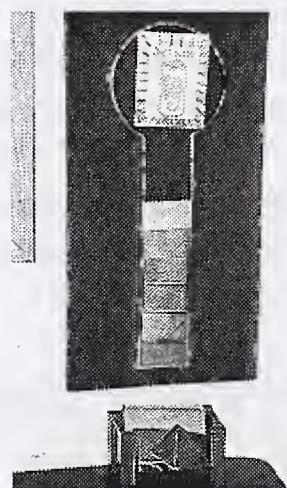
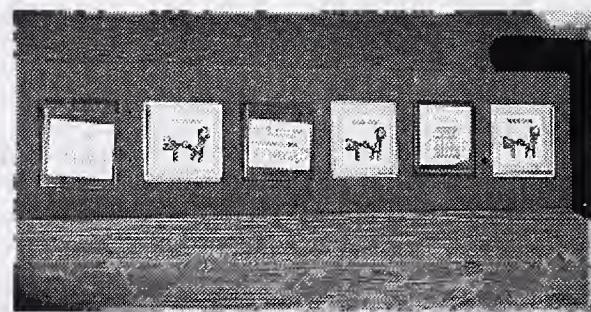
Accessible storage can also be accomplished using large wall boards covered with Veltex. Tools and other equipment (e.g. switches, CD's, floppy disks, etc.) can be put in clear plastic zip lock freezer bags. The bags should be affixed to the board with a square of hook Velcro. People can then independently check the storage display to find out what's available to use and obtain items as needed.

Sometimes workers run out of parts or may need help to complete jobs. Simple devices, like buzzers or bells, can be used to gain attention while promoting "in seat" behavior.

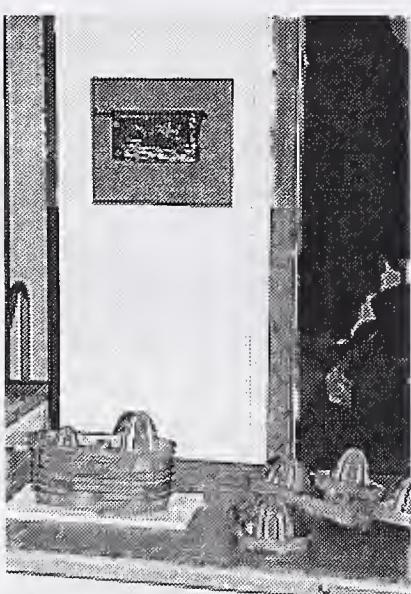


Messages can be programmed into simple voice output devices and used at work stations to comment on completed work (i.e. "I'm all finished, can I have something else to do?"), or ask for assistance, a new job, more parts, a break or a trip to the bathroom.

Environmental displays to facilitate scheduling and completing work can be very useful. Some workers respond well when given control over which jobs will be done first and when breaks will occur. On table top Veltex boards, pictures of chosen jobs and break activities can be sequenced from left to right. As each step in the schedule is completed, it is satisfying to remove pictures and place them in a "finished" box.



Opportunities to select a snack or special treat to "work for" can make a passive worker feel more motivated. Once chosen, a picture or remnant of the item can be posted on a colorful display near a work station. As tasks are completed, tokens are added until the display is full and the snack (or treat) is earned.



To facilitate their inclusion in work programs, it is often necessary for people who rely on non-symbolic communication modes (e.g. actions with objects, leading others, etc.) to be able to request things outside their immediate environment, or to communicate to unfamiliar partners. We have found the use of simple light technology devices can be very effective with these individuals as long as they are object based. Mounting job remnants (i.e. pieces of jobs) on a mini "trash bin" has worked well as a request to end a work session. Placing a cosmetics bag containing hand cream near another worker's station has been an effective tool to request the bathroom.



During breaks or lunch, purchasing or choosing

snacks and beverages can be built into the routine. Dynamic displays can be posted near the break room, kitchen or cafeteria reflecting the day's choices. If workers can produce and/or package their own snacks, a "Snack Cart" program can be created where program participants run their own mini store. Picture choice boards can be developed to reflect those daily choices, and be posted along with any tokens or money which may be needed to exchange for the "purchase".

DETAILED ACTIVITY DESCRIPTIONS

ACTIVITY: SODA CAN INSERTION

DESCRIPTION

Rinsed soda cans are released through the hole in the cover of a trash bin marked for can recycling. Cans can first be washed out as an initial step to this activity. If the recycling bin is on wheels, people can easily roll it from one area of the room to another at the beginning and/or end of the work session.



DESIGN /CONSTRUCTION

Mark a circle that measures about 4" in diameter on a flat portion of the lid of a trash can with wheels. Drill a starter hole into the center of this circle. Now you can use a jigsaw to cut out the whole circle. Draw or photocopy the three arrow recycling symbol and a soda can picture. Color the pictures, glue them to a backing, contact them, and attach them with Velcro to the lid of the new recycling bin.

THERAPEUTIC ANALYSIS

Recycling is a functional activity that adults with developmental disabilities can perform in home, day activity, and work environments. Cans are large enough so that people can use cylindrical grasp to hold them. Release must be more controlled than if the whole top was open. The individual may need to adjust the position of the can to orient it to the opening. The concept of "insertion" is a simple form of construction with objects mastered during the Sensory-Motor stage of cognitive development; this task can be mastered by many individuals with very limited cognitive capacity.

ACTIVITY: SMALL ITEM INSERTION TASKS

DESCRIPTION

Individuals pick up one item at a time from a bin or table surface, orient it to the opening in the lid or side of a



container, and drop or poke it through this hole. There are many ways to adjust the difficulty of these tasks:

1. Hole Size/Object Size. Insertion is simplest when the holes in containers are large and the items to be inserted are small. If the fit is tight items may need to be poked to fit through the opening (pom poms often require a poke to fit through holes). This can be a good way to work on index finger isolation and use of pressure.
2. Hole Shape/Object Shape. It is easiest to place spherical or cylindrical items through round holes. Inserting flat items through slots is easier than orienting complex shaped objects to odd shaped holes.
3. Plane of Opening. It is easiest to locate an opening in a cover that is in a plane parallel to the table's surface. If the space is in a vertical plane more wrist extension and/or forearm supination are needed. Gravity is no longer so helpful!
4. Height of Opening. It is easy for individuals to bend over to put items in a container that is only a few inches above table height. When the opening is above shoulder height the individual must look up and reach. Posture and proximal stability at the shoulders can be improved through such a placement change.
5. Number of Hole/Object Shapes. Single item insertion tasks are the easiest. These tasks can also be made with several opening shapes to match several object shapes.
6. Need for Combination with Other Actions. Some functional tasks, such as using a vending or gum ball machine, require the insertion of coins plus poking a button or turning a knob and removing the purchased item.



DESIGN/CONSTRUCTION

Opaque Rubbermaid containers with lids are good for insertion tasks. The items can be seen inside the bin which reinforces object permanence. Use an Exacto knife to carefully cut out the holes in the lid. If a multiple item insertion task is being made, make sure that different shaped items are very close in size and that the items fit tightly enough through the holes that no items can be inserted through the wrong holes (this defeats the purpose of the sorting requirement). Coffee cans with covers are not recommended for making insertion activities; the writing on the sides is distracting, and the lids split very quickly. Short durable mailing tubes with caps at both ends can make interesting insertion tasks. Different shaped openings can be cut on each end. The consumer now needs to hold the tube with one hand and turn it over repeatedly to find the correct openings. A xylophone can be secured at an angle inside a fairly large plastic bin with a cover. When marbles are dropped through a hole in the lid over the xylophone a beautiful sound results. A hole at the base of the bin emptying into a tray or box makes removal of the marbles easy.

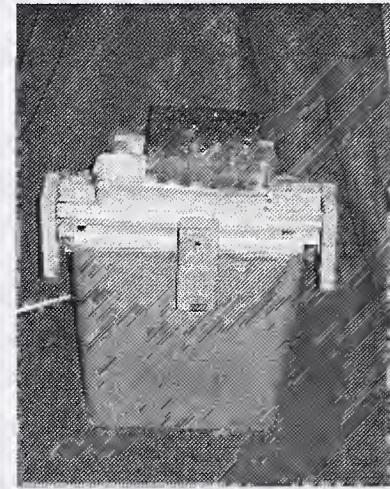
THERAPEUTIC ANALYSIS

Insertion requires a very basic cognitive capacity for construction with objects. When individuals are functioning at this level it is important to find as many meaningful and functional tasks as possible that match this ability. Multiple item insertions can be completed with a trial and error approach; the individual does not need to have sorting or shape matching skills. Day programs often make the mistake of giving individuals, who can complete more complex activities, lots of insertion tasks solely because they can complete them easily and independently. No skill development is taking place when this happens.

ACTIVITY: PAPER SHREDDING

DESCRIPTION

Individuals insert pieces of paper into a small office shredder that is set up atop a waste basket. The insertion slot can be marked with bright colored tape if the individual has visual or visual perceptual limitations. A guide can be built if individuals have poor motor control or limited attention to task. It is easier to insert small pieces of paper than full 8 1/2"X11" sheets: papers can be pre-ripped into halves or quarters.



DESIGN/CONSTRUCTION

The method for building a guide will vary with the brand of shredder and the type of waste basket on which it is fastened. The base needs to fit snugly around the basket. The actual guide raises the sides around the opening into the shredder so that the paper is channeled into the slot.

THERAPEUTIC ANALYSIS

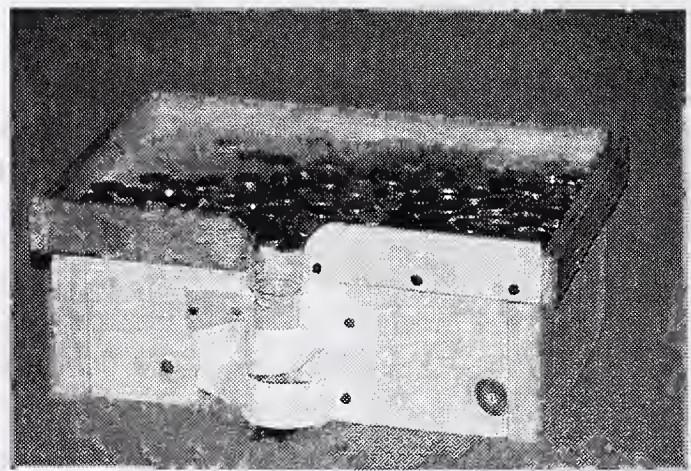
This is a functional insertion task. It can be mastered by individuals with very limited cognitive capacities. Many people with extensive physical challenges can also shred independently. Working with a machine can be an incentive for some people. Those that thrive on sensory input may like the task, as the machine makes a humming noise that builds as it sucks in the inserted paper.

Some staff express concern about the safety of the machines, but because the insertion slot is extremely narrow, fingers can not be cut when used to poke at stuck pieces of paper. However, some precautions should be taken; workers should not wear ties or loose scarves, and individuals with long hair should tie it back or make sure that they do not put their heads right near the machine to feel its vibrations or hear a more intense sound.

ACTIVITY: FILLING COIN COUNTING TUBES

DESCRIPTION

A coin counter set has four separate tubes of slightly different diameters (one for pennies, one for nickels, one for dimes, and one for quarters). There is a slot near the top of each tube. The individual is given a dish of one type of coin and the appropriate counting tube. Coins are picked up one at a time and put in the tube. Staff monitoring the project prompt individuals to stop when they reach the slot. If extra coins are in the tube they fall out through this opening when the tube is tapped. The tube can be placed in a stabilization jig if the individual has mild limitations in motor control or difficulty with bilateral motor coordination. A counting box can be constructed with the tube Velcroed onto the side. This allows the more motorically impaired individuals to slide the coins into the counter rather than picking them up.



DESIGN/CONSTRUCTION

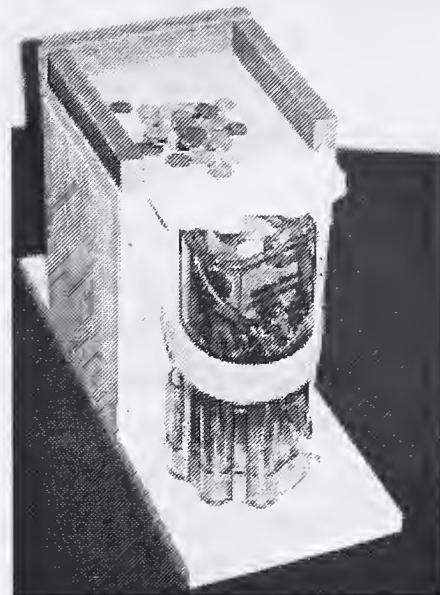
The counting box needs to be the same height as the counting tubes (a touch higher is OK). The other measurements can vary, but a top platform area of about 8" X 11" is ideal.

1. Allowing for the thickness of the top surface, figure out the height needed for the base pieces so that the finished product will be the height of the counting tube.
2. Cut two lengths and two widths. Glue and nail them together to make your base.
3. Now cut the cover piece so that it will extend out to the edges of the base. Glue and nail it in place.
4. Use wood strips that are about 1 1/4" high to make the edges for the tray. They will be tacked onto the platform about 1/2" below the top. Cut one full length and two full widths allowing for the thickness of the strips themselves. The front border needs to have an opening in it the same size as the top of the tube, so cut two pieces about 3/4" shorter than half the length of the box. Curve the corners at the opening by planing or sanding. Glue and tack the edging in place.
5. Tack a strip of loop Velcro along one side of the tube. Tack the ends of two straps on the other side of the tube. The straps will lie across the roll and hold it in place on the side (the tube has to be easily pulled off so that the counted coins can be tipped into a wrapper).

A similar platform jig can be made for sliding coins into a battery operated sorting machine. The one pictured here has an extension from the platform molded out of splinting material to help direct the coins into the opening of the sorter.

THERAPEUTIC ANALYSIS

This is another functional insertion task. It is a real work skill for individuals with very limited cognitive or motor capacities. People can manage soda machine money, count and roll coins that have been donated to an agency, or offer this service in community work placements. Coin counting can also be done with two dimensional counting jigs or with counting machines.



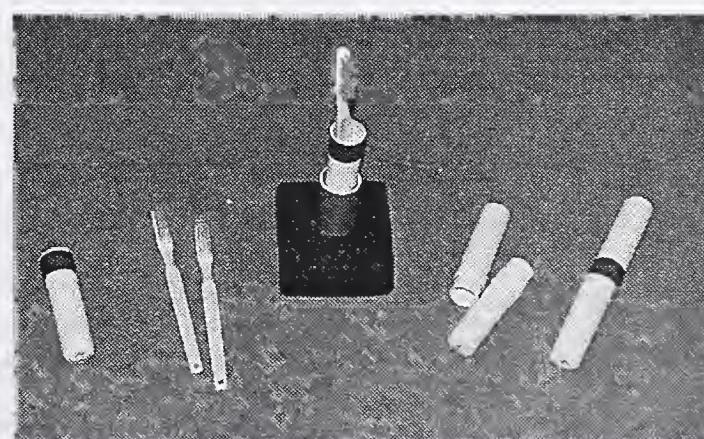
ACTIVITY: SINGLE ITEM PACKAGING

DESCRIPTION

The worker typically has three bins in front of him. The first is filled with several duplications of almost any object you can think of. The second bin contains many bags, boxes, envelopes, jars or other containers. The final bin is reserved for the "finished" packaged single items. The individual picks up an object, puts it in the package and puts the filled package in the finished bin. The most difficult part of this activity for many people is the one to one correspondence required; just one item is to be placed in each container. Some items fit tightly enough into their packages that a second item could not possibly be crammed in. Examples of such tasks include: putting lipsticks in lipstick holders, putting toothbrushes in two part tube containers, placing films in film containers, and putting soaps in hinged or two part soap dishes. In these activities the possibility for making mistakes with one to one correspondence is eliminated. Examples of other one item packaging tasks that have not eliminated possibilities for error in one to one correspondence include: putting combs in ADL bags, putting pennies in coin purses, putting pencils in pencil boxes, putting costume jewelry items in small boxes, putting paint brushes in watercolor boxes, putting screws in tiny hardware store zip lock bags, placing Rubbermaid jars in lunch bags, putting brochures into folders, and putting pens in pocket protectors. Activities are best when the objects and their containers realistically belong together as in the above examples. Activities like putting 1" blocks in plastic bags or placing golf balls in boxes are more contrived.

DESIGN/CONSTRUCTION

Little alteration of materials is needed for most packaging tasks. Some modifications prevent messes. Tape caps on markers and add tape around the center of the lip stick tubes. Some adaptations can make part discrimination or openings more obvious. Mark the "bottoms" of toothbrush holders with a ring of bright colored tape so they are readily differentiated from the "tops". The opening side of clear plastic bags can be similarly marked with a colored



tape line. Stabilization jigs can hold the package in place to simplify the spatial orientation demands of the task or to diminish the need for bilateral motor coordination.

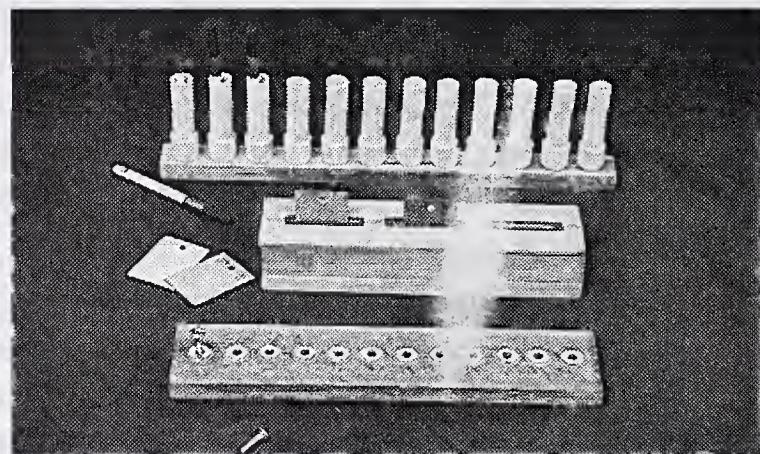
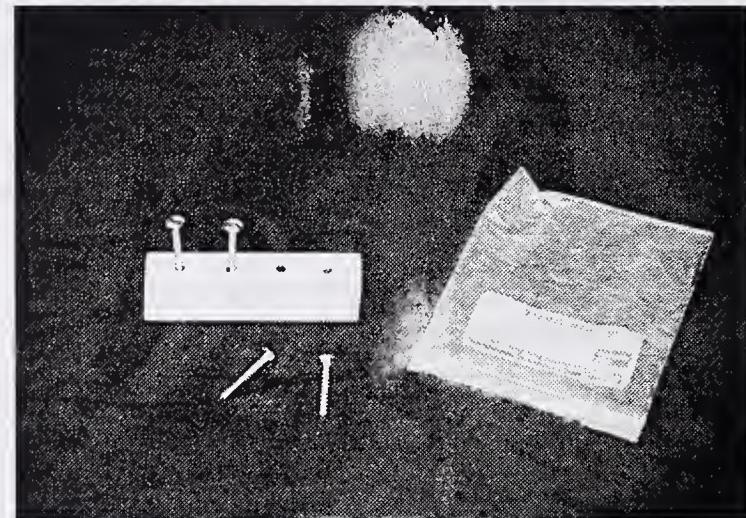
THERAPEUTIC ANALYSIS

Items to be packaged can be chosen because they are tactiley stimulating (tiny Koosh balls, pine cones, smooth nuts, etc.), because they promote fine motor function (tiny beads or hardware pieces encourage pincer grasp, work with paper products promotes delicate touch to prevent crumpling, etc.), or because they are functional (foods can be packaged for a snack cart project, craft items can be bagged for sale, etc.). Packaging techniques used can challenge fine motor or motor planning skills. Ties can be twisted on, zip locks can be pinched shut, pencil box lids can be slid into place, ADL bags can be zipped closed, snaps can be poked shut, lids can be pushed to snap into place, wire twists can close plastic bags, coin purses can be snapped shut, etc.

ACTIVITY: COUNT AND PACKAGE ACTIVITIES

DESCRIPTION

Once individuals have mastered several single item packaging tasks, they are ready to try concrete counting followed by packaging. Counting jigs help make the association between object and number more concrete. They can be two or three dimensional. Three dimensional jigs, in which only one item can fit into each space, offer the most structure. Examples of these easiest counting tasks include: counting carriage bolts using a jig with a row of deep holes in it (the bolts are poked into the holes like pegs are placed into a pegboard), counting coins using a jig with a row of slots in it, and counting rolls of tape using a jig with a row of dowel stubs (each tape is stacked around each dowel piece as a ring is dropped onto a post). Other three dimensional jigs may use wooden or plastic strips to separate the spaces, but it is possible to make errors by placing more than one item in each space. A board with a row of hooks on it makes a three dimensional counting jig for items that can be hung (again it is possible to make errors using this jig as more than one item can dangle from the same hook). Two dimensional jigs are most concrete when the outlines of the objects are the same size and shape as the actual items. Xeroxed copies of the items to be counted often work well. Generic counting jigs (with just squares or circles marked with numerals) can be



used by those workers who need less structure to complete one to one correspondence tasks. To set up individuals for count and package tasks, put the bin of objects on their left, place the counting jigs next, set bins filled with the containers to be used next, and put the finished bins to their right. Workers pick up objects and place them in the jigs one at a time until the jigs are filled. They then pick up the container and place each item from the jigs into them. Finally the packages are placed in the finished bins. Sometimes individuals will need to have the bins of items pushed away once the jigs are filled to prompt them to completely empty the jigs into the bags instead of going back to this supply to refill the partially emptied jigs, thus loosing "count".

DESIGN/CONSTRUCTION

Two dimensional jigs will wear best if pieces of mat board, vinyl, or similar stiff and durable material are used as the bases. They should be covered with clear contact paper. It is easy to make hole jigs by drilling a row of holes into a thick piece of wood.

Slot counting jigs for small flat items like coins can be made by cutting rectangular notches in a foam filled mount board (using an Exacto knife), that are a bit wider than the items to be placed and about half the height of these items. Cut two 1/2" to 3/4" thick wooden strips that are a bit longer than the row of spaces. Trim the mount board to the same length and height as these wooden pieces. Make a sandwich with a wood strip on the bottom, the notched foam board in the middle, and the other wood strip on top. Glue and nail this together. Cut another strip for a base that is about 4" wide and the same length as the "sandwich". Glue the base onto the jig such that the slots run across the top surface. The jig can be sanded so that the edges of foam board at the top will be completely even with the wood.

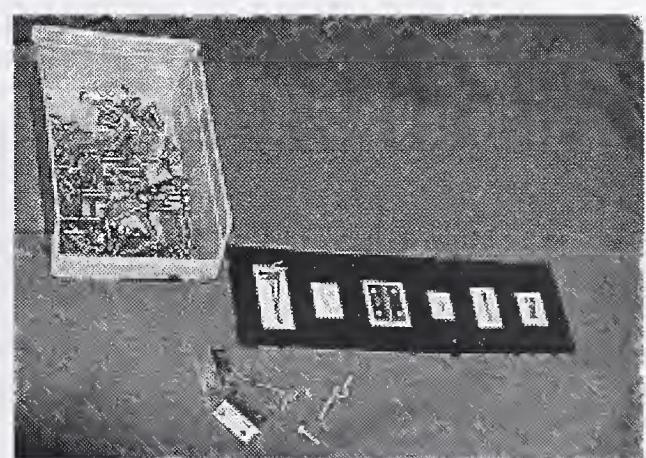
THERAPEUTIC ANALYSIS

Some of the contract work that adults with developmental disabilities have available to them requires counting and packaging. Use of jigs that are as structured as necessary can mean that individuals that can not abstractly "count" can participate in this work. Placing items on posts, in holes, on hooks, or in slots as the jigs are being filled can challenge fine motor skills.

ACTIVITY: MATCH AND PACKAGE ACTIVITIES

DESCRIPTION

Once the individual has mastered some counting and packaging tasks he/she may be ready to try some match and package activities. In these tasks, instead of counting several of the same item, the worker must select one or more of each of several different items. Bins for the different items of the



set can be lined up in front of the individual. Some individuals can pick one or more items, as directed, from each bin to have the correct combination for packaging without using the jig. However, many individuals need a more structured matching step to maintain their accuracy. As with counting jigs, matching jigs can be two or three dimensional. It is possible to create some three dimensional matching jigs that decrease the possibility for error by shaping the spaces so that only one type of item can fit into each space. The washer, nut, and bolt jig uses a slot for placement of the washer, a post for placement of the nut, and a hole for placement of the bolt (the diameter of the washer hole must be smaller than the diameter of the post used for placing the nut to eliminate the possibility of errors). Similarly a pencil and pencil top eraser jig makes use of holes for placing the pencils and metal dowel pegs for placing the erasers. Two dimensional jigs can be made with photocopies or line drawings of the items to be chosen. In this manner several game pieces can be chosen to be placed in a bag and heat sealed, ruler-pencil-eraser-protractor sets can be selected and packaged in pencil boxes, and penny-nickel-dime-quarter sets can be matched and placed in coin purses. When objects are small and quite similar in appearance it may be that color photocopies are needed. If color photocopying is not available it is also often possible to make a jig using one set of the actual objects. As with the counting activities, individuals initially take items from the bins to fill the jig. Once the jigs are filled they need to switch gears and empty the jig into a container.

DESIGN/CONSTRUCTION

Matching jigs are constructed in much the same way as are counting jigs. The slot portion of a jig can be made by cutting an appropriate sized notch in foam board and sandwiching it between two strips of wood. The hole portion of a jig can be made by drilling holes through a strip. When these two parts are glued onto the same base the matching jig is complete. An object display jig can be made by gluing one of each needed item for the set in a line on a plywood or mat board base. In order to make a smooth surface so that each item can be placed on top of its match, a piece of Lexan or other clear plastic material can be cut to the same size as the base. Wood strips that are the same height as the highest object are glued in place around the edges of the base. The clear plastic is then laid across the top and glued or screwed into position.

THERAPEUTIC ANALYSIS

Set matching and packaging jobs are often available as contract work. Use of matching jigs can help more individuals to be successful at these activities. Practice with match and package tasks can train people to complete such tasks in the future.

ACTIVITY: ORDER PICKING

DESCRIPTION

Order picking tasks are similar to match and package activities. Instead of using one jig over and over again to ensure that each picked set is identical, a separate "order" jig is

used for each package. These "orders" are all different. For example, the individual is given a bin containing a variety of small buttons to be packaged in small boxes. Each box has a picture contacted in its base depicting the items to be placed inside. One box might have a picture of a pearl button, a flower button and a four holed black button. Another box might have a pictorial order of two yellow star shaped buttons. Food order activities can be developed using empty or unopened cans and boxes with "order slips" for each bag. Order picking is a potential community based work activity. The setting, however, needs to set up a symbol or picture "order" and shelf label system. A chocolate factory that hires workers with disabilities can label all of their types of chocolates with symbols (for example, the chocolate covered cherries may be designated by red circles, the almond bark may be depicted by brown ovals, the mint creams may be labeled with green rectangles, etc.). The individual can then fill a variety of assortment orders that are written in colored shapes.



DESIGN/CONSTRUCTION

When making pictorial "orders" for practice tasks it is a good idea to glue them onto vinyl or mat board and contact them to make them more durable.

THERAPEUTIC ANALYSIS

Order picking is less concrete than matching and packaging using a jig. It is not always possible to physically place each picked item on its depiction on the "order." After filling several containers, the individual can not begin to rely on a familiar pattern for each order. They need to continue to focus on the pictures or symbols.

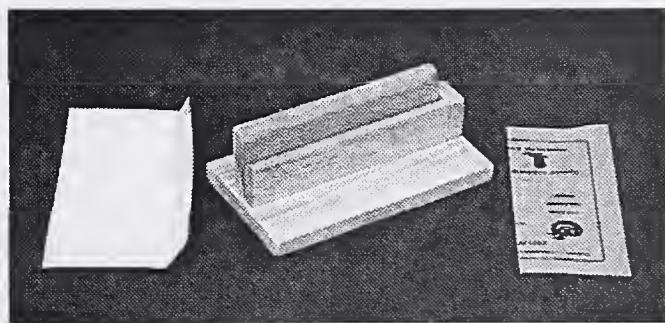
OTHER ACTIVITIES

Many other sorting and packaging, assembly, clerical, maintenance, and tool use activities are described in "A Therapeutic Approach to Work-Related Tasks: An Activities Curriculum", written by Molly Campbell MS OTR/L and published by Therapro, Inc.

ADAPTIVE EQUIPMENT

ADAPTATION: ENVELOPE STABILIZATION JIG

DESCRIPTION



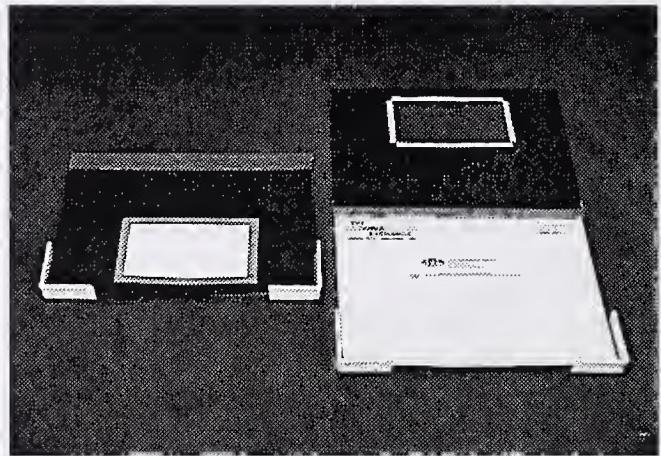
Many blind individuals, people with mild coordination deficits, or workers with visual

perceptual/motor planning limitations have difficulty positioning envelopes consistently for completing stuffing jobs. A slot jig can be helpful. The standard business envelope measures 9 1/2" by 4 1/8". Cut a base that is about 4" wide and 12" long. Glue the two side supports near the right end of the base; the side supports should be parallel to one another, approximately 3/16" apart, with the 2" height of the supports creating the slot where the envelope will be held. Cut a block 2" in height and wide enough to cover the end of the jig. Glue the block to the right end of the jig. Without the block at the end the envelope could slide through the jig. It seems that most individuals find that it is easier to place and remove the envelope if the side supports do not extend the whole length of the envelope. The jig can be clamped or rotated around so that the block is on the left as needed.

ADAPTATION: LABEL/STAMP PLACEMENT JIGS

DESCRIPTION

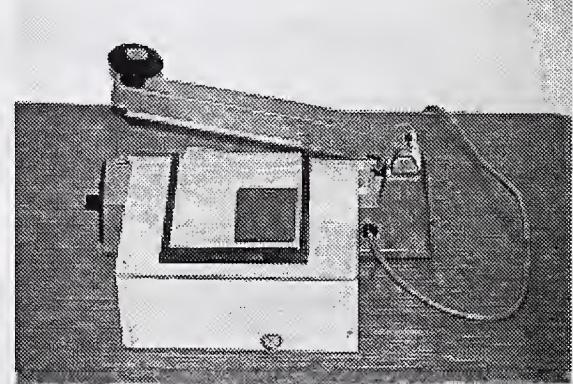
Address labels need to be placed in the center of the envelope, and stamps need to go in the top right hand corner. Many adults with developmental disabilities do not have the cognitive and/or perceptual capacities to judge where the "middle" or the "top right hand corner" is. A label placement jig can be made of thick vinyl. Cut two pieces of vinyl that are 1/8" wider and 1/8" longer than the envelope. Decide where the label or stamp should be on one of the sheets of vinyl. Measure a rectangle in this location that is about 1/4" longer and 1/4" wider than the actual label, and cut the space out with an Exacto knife. Hinge the two sheets of vinyl across the top with duct tape (a strip should go on the inside of the fold and a strip should go on the outside of the fold). Guides should be added to the bottom corners of the back, windowless side of the folder to ensure that the worker will accurately place the envelope in the jig. Corners of unused plastic soap dishes or even cardboard boxes can be cut out for this purpose. The rough edges are sanded and the corners are secured to the vinyl with Velcro. For individuals that are just learning label placement, jigs can be made with much larger openings; the window sizes can be decreased in small increments as accuracy improves. Some people have found that labeling is more readily accomplished on a slanted surface; slant board jigs can be constructed as well.



ADAPTATION: GUIDE FOR HEAT SEALER

DESCRIPTION

When heat sealing, the hardest step can be to hold the bag in the correct position in relation to the sealer arm. Many problems are common: if the bag is held at an angle a crooked seal results, if the bag is crumpled the



seal puckers, and if the bag is held too close or too far away from the sealing arm the seal is too deep into the bag or too close to the edge. A platform guide can help. Build a wooden box that is the same height as the strip under the sealing arm where the melting actually occurs. It may be possible to Velcro this box to the front of the sealer so that you don't have to worry about constructing a base for the sealer and guide. Determine what the ideal placement of the bag would be. Mark the spot by gluing wooden craft strips (the 1/2" X 1/2" size should work well) along the three edges where the closed sides of the bag should go. These wooden markers can be painted a bright color so that they are more obvious. Now the worker fills the bag, places it within the markers on the guide, smoothes it out, and pushes down on the arm of the sealer. An acceptable seal should result each time.

The Transition to Work Inventory: A Job Placement System for Workers with Severe Disabilities (see Resources List) analyzes fine motor, social, cognitive, perceptual, and sensory-motor capacities as they relate to work. The requirements of specific jobs are also analyzed using the exact same categories. When a person's skill levels do not quite meet the requirements for the job, accommodations are recommended. The Accommodation Guide lists many possible teaching strategies, job modifications, and adaptive equipment solutions that are helpful in a general way regardless of whether or not the actual assessments have been used.

CRAFT ENVIRONMENT

RATIONALE

The production of craft items for gift giving, display or potential sale, is a functional activity with a community integration component. When the end products are beautiful, valued and admired by others, people feel good about having made them.

An artisan with developmental disabilities does not need to be capable of all of the steps of a project to participate in it. Once a group leader develops a task analysis of a project, the skills of the participants can be matched with each step in its production. Several different people may work on the same product. For example, when making hair scrunchies one individual may cut the fabric strips, another very physically limited person may operate the switch of the sewing machine, a third individual with good dexterity and motor planning skills may turn the tubes right side out, and the staff person coordinating the project may be called upon to complete the finishing hand sewing. Adaptive equipment and techniques can be used to make any steps of a project easier for the participants. Adapted handles for brushes and other tools, needle pullers, mounted scissors, adapted paper cutters etc. can allow more people to complete more steps of the chosen crafts. (See Appendix I for Craft Task Analysis Worksheets. The "individual" sheet is used to look at one person's ability to perform each step of the project. The "group" sheet is used for matching several people's skills to different steps of the activity.)

Craft production is most successful with people who are able to understand the value of the finished product. Craft groups for individuals functioning at the Sensory-Motor level are appropriate when the focus is on sensory exploration of craft materials and simple placement of craft related objects (insertion, stacking, etc.). This eliminates most product oriented activities with the exception of some highly sensory experiences (e.g. paper making). For people at the Sensory-Motor level, we recommend that craft production activities be replaced with a more broadly defined “Interactions with People and Objects” group.

GENERAL THERAPEUTIC GOALS

- To improve fine motor skills (approach, grasp, release, dexterity, cutting, pinning, etc.).
- To improve visual perceptual skills (pattern following, piece orientation).
- To improve cognitive skills (sequencing steps of tasks, measuring).
- To enhance self worth through production of attractive, sellable materials.

PHYSICAL SPACE

Ideally, the craft room should have a sink in it, the floor should not be carpeted, and there should be good lighting; tables and chairs should offer all participants functional sitting positions; foot rest stools may need to be used for shorter people so that they can comfortably rest their feet on a flat surface while sitting. There should be plenty of storage space, and items like individual projects should be accessible to people and placed on well organized, labeled shelves. Paints, scissors, paper, and other supplies should be stored in closets or closed cabinets.

SUGGESTED ROUTINE/FORMAT FOR GROUPS

Group participants enter the crafts room and sit in familiar or assigned seats. GWARC employs a successful opening ritual in which people are prompted to; stand up, walk to a designated corner, pull an apron off a hook, put the apron on, pick up a work tray, and return to their seats. Once the “apron/tray” routine is completed, participants are ready to work. Individual projects are selected or offered to each group member (the tray serving beautifully to define work areas and help with clean-up). A planned group project is then introduced and worked on with each person. At the end of the session people store their individual projects, stand up, carry their trays to the corner where they place them on top of a stack, remove their aprons and hang them up, and get ready to leave.

COMMUNICATION AND ENVIRONMENTAL CONTROL

Much like the fine motor environment, the crafts environment should be rich with a variety of activities and choices. Shelves labeled with pictures will facilitate independent selection and replacement of craft projects, as well as help keep everything organized.

Vocabulary on AAC devices should reflect general arts and craft needs (e.g. colors, scissors, glue, paint, markers, needles, etc.) so it will be useful across a variety of projects.

A few favorite crafts activities might also be included in individual displays so users can refer to and request them. After projects are completed, photographs of them can be added to show friends and family. Once again, for AAC users who do not have easy access to their personal tools when doing crafts or who are just beginning to use symbols for some highly preferred activities, posting pictures or remnants of activity choices on mini-boards or dynamic displays is a useful approach.



Individual crafts projects can be stored in clear plastic bins and labeled with the name and photograph of the artist. These bins should be stored on easily reached shelves or in a cabinet that can be accessed or referred to by all.

During flea markets or crafts sales, messages can be programmed into simple voice output devices and used to gain the attention of potential customers (e.g. "We've got some original art work for sale!", or "Hey, looking for a great gift idea?", or "We're having a holiday sale. Would you like to buy anything?").

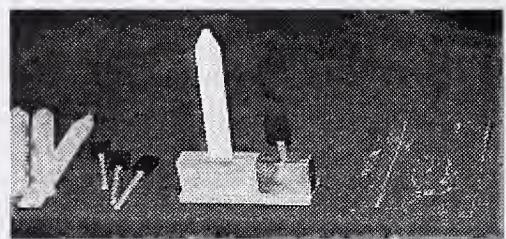
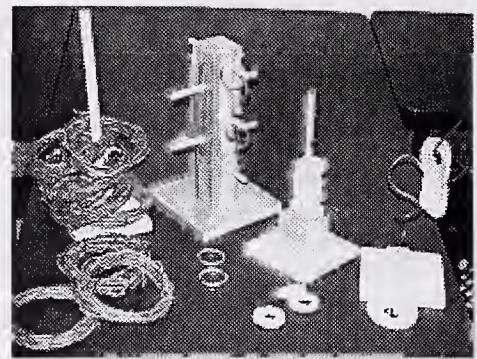
Environmental displays of completed art work can be very rewarding and add a lot of beauty to the physical space. Many artisans we have worked with take great pride in their accomplishments but are unable to share their art or artistic ideas unless they have some public forum for displaying it.

INDEPENDENT ACTIVITIES

A low client to staff ratio is required to help assure quality outcomes of craft projects. Most day programs, however, don't have this luxury. To accommodate larger crafts groups, it is important to have reusable individual projects available that people can work at, with minimal prompting, while waiting to participate in the chosen craft project. This way all individuals are engaged in activity, and the quality of craft production is maintained. The independent projects in a craft environment should make use of craft/art materials as much as possible. Examples of such tasks include:

- Inserting craft sticks, wooden shapes, tiny plastic bottles, shells, or other familiar craft items through holes in covers of containers.

- Placing colored wooden shapes or pictures on a slanted Veltex board (see description).
- Stacking paint dishes.
- Stacking rolls of ribbon onto a post.
- Poking paint brushes (bristles up) into a hole board.
- Poking long ball-ended pins into a pin cushion.
- Poking "Lite Brite" pegs into the illuminated slant box.
- Stringing large beads (try to find pretty "adult" looking beads).
- Stringing small beads onto a needle and thread or thin wire.
- Placing markers (taped shut) and colored pencils into a tray with two sizes of cylindrical spaces.
- Sorting buttons by color and shape into a tray with many small compartments.
- Sorting small wall paper samples by color and pattern into a tray with defined spaces.
- Wrapping string around cards.
- Building "sculptures" with commercially available constructional materials such as Toobers and Zotts, Legos, Bristle Blocks, etc.
- Counting and bundling craft sticks with small elastic bands (using a counting jig).
- Making "Art Kits" by gathering sets (such as shell-brush-ruler-pencil-glue stick) by using a matching jig and packaging them.
- Using push pins on a vertical or slanted cork board to create a collage or display completed art projects.



DETAILED ACTIVITY DESCRIPTIONS

ACTIVITY: VELTEX SLANT BOARD COLLAGE

DESCRIPTION

Individuals are given colored wooden shapes, photographs, or small squares of wall paper samples, which can be mounted and protected with contact paper, with hook Velcro on one side. They also have a Veltex covered slant board. (Veltex is the loop side of Velcro expanded into large sheets of cloth. It comes in many great colors and is sold by the yard or on large bolts).

Individuals pick up their favorite shapes or pictures and arrange them on the Veltex. People can also pull off the pieces on these displays and drop them into a bin.



DESIGN/CONSTRUCTION

To make the Veltex slant board, first cut a piece of 1/4" plywood to the size that you would like for the finished display (15" X 20" is a good size). Next, you will need to cut two wooden triangles for supports. To make the triangular supports use a board that is 3/4" or 1" thick and 5" to 8" wide. Measure the exact width of the board. Create a square with the length of its sides the same as this board width. Draw a diagonal from one corner of the square to the other. Saw along the diagonal and straight lines. Glue these two triangles along the bottom of one of the long edges of the plywood piece such that the long sides of the supports will eventually rest on the surface of the table. Once the glue has set a bit it is easier to add nails or screws through the plywood into the supports to make the whole board sturdier. Get the Veltex. Since the cloth will wrap around all the edges of the slanted surface it needs to be cut about 4" wider and 4" longer than the plywood piece. Use spray adhesive to stick on the Veltex (some brands work better than others. We think that the best is STA'-PUT multi-purpose spray adhesive). Spray both the back of the Veltex and the front of the slant board. Wait as directed on your can. Press the board onto the Veltex. You will now have to cut out the Veltex corners and make slits along the ends of the supports so that you can wrap the material around onto the back side. To make a good bond, carefully spray a bit of adhesive around the edges of the back before you wrap.

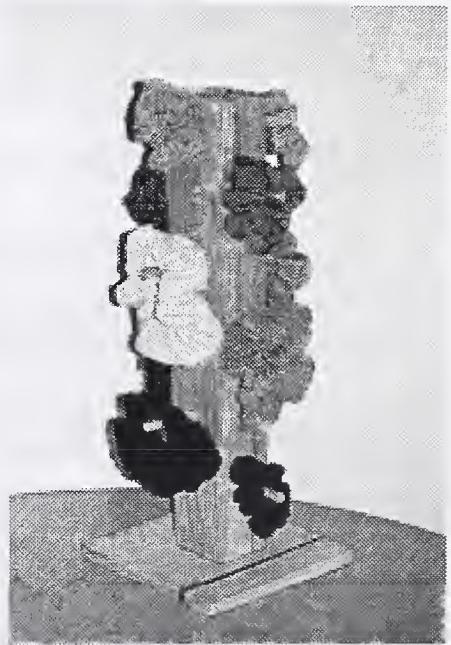
THERAPEUTIC ANALYSIS

Removing items from the slanted display and putting them in an open container is a very easy insertion task. Use of the slanted surface encourages looking and reaching. Any time a slanted or vertical surface is incorporated into an activity, stabilization of the wrist in a neutral to extended position is encouraged. When individuals make their own displays, they can choose desired pictures or shapes and place them anywhere; creativity is fostered with such an open ended activity. As a version of this activity for working with visually impaired individuals on visual scanning, we have used bright yellow objects on a black Veltex board to maximize contrast.

ACTIVITY: HAIR SCRUNCHIES

MATERIALS AND EQUIPMENT NEEDED

- Pretty cotton or other light weight fabric
- Sewing elastic (1/4"width)
- Thread
- Sewing machine
- Yard stick
- Chalk
- Pins (Long pins with ball ends are easiest to use)
- Needle
- Pencil



- Scissors
- Tape

DIRECTIONS

1. Mark a strip of cloth that measures approximately 5" by 24" (most adults with developmental disabilities can not measure, but many can mark the cloth with chalk when a yard stick is stabilized in the correct location for them).
2. Cut along the lines.
3. Fold the strip in half (the long way) with the printed side inside. Pin along this edge (the pins need to be perpendicular to the sewing line so as not to break the sewing machine needle). Chalk lines on the fabric showing direction for pin placement can be a good guide.
4. Sew along the long outside edge about 1/2" in from the side (many individuals can better guide the material with another long chalk line to follow).
5. Remove the pins and poke them into a cushion.
6. Turn the cloth tube right side out.
7. Cut a piece of elastic about 8" long.
8. Thread a needle and knot the end.
9. Tape the elastic to the end of a pencil. Poke the pencil through the tube. Pinch both ends of the elastic together as you pull off the pencil.
10. Sew up and down through the overlapped ends of elastic for at least 12 stitches (the scrunchie can be stabilized in a wood clamp).
11. Fold under the edges of one of the cloth ends. Tuck the other end inside the folded one. Carefully hand sew these ends together.

ACTIVITY: PILLOWS

MATERIALS AND EQUIPMENT NEEDED

- Pretty medium to light weight upholstery fabric (2 materials that look nice together can be chosen)
- Stuffing
- Sewing machine
- Thread
- Pins
- Scissors
- Chalk
- Pre-made pattern square

DIRECTIONS

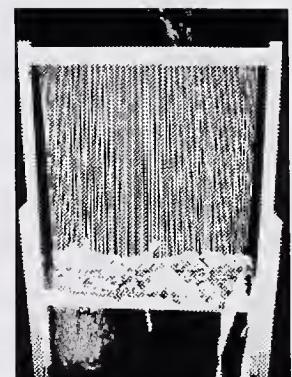
1. Before working with the adults with developmental disabilities make a pattern square any size that you like (we like 16" X16").
2. Trace two squares with chalk (both squares can be traced on the same fabric, or

- they can be traced on materials that compliment one another).
3. Cut.
 4. Pin the 2 pieces together with right sides inside (short lines drawn with chalk on the cloth can provide cues about where to poke the pins).
 5. Sew along three sides of the pillow using a 1/2" seam allowance.
 6. Turn the pillow casing right side out (poke the corners of the square to make sure they are fully turned).
 7. Stuff the pillow.
 8. Turn the raw edges of the open top inside.
 9. Pin.
 10. Sew carefully across the last edge.

OTHER ACTIVITIES

- Button/Magnet Making. (Badge-A-Minit sells the bases and backs as well as the press systems for producing professional quality buttons/magnets. An electric circle cutter, also sold by Badge-A-Minit, enables almost anyone to cut a perfect circle. Intriguing pictures from photography, psychology and nature magazines make great raw material.)
- Paper Making.
- Paper Marbleizing.
- Spin Art.
- Silk Screening. (T-shirts, aprons, greeting cards, etc. can be made.)
- Stenciling.
- Bead Making. (Colored clays can be used to form beads that can be baked in a regular oven. We find that Sculpey is a bit softer and easier to work with than Fimo.)
- Sewing. (Bean bags, stuffed animals, wheelchair bags, simple draw string bags, pile hats and tube socks, jester-style hats, aprons, place mats, wall hangings, quilts, potpourri bags etc. can be made.)
- String Art.
- Simplified Embroidery. (Sewing along a line is the easiest especially if the design is marked on both sides of the fabric. Make sure that the design is large and not too detailed. Large, long needles are helpful. Large cross stitch is a good way to work on the perception of diagonals.)
- Enameling. (This activity is only appropriate for individuals with higher level cognitive capacities. Close supervision is needed for safety.)
- Leather Craft. (Simple wrist bands, key chains, belts, wallets, etc. can be made. Individuals often enjoy using stamping tools to decorate the leather.)
- Stained Glass Making. (This activity is only appropriate for individuals with higher level cognitive capacities. Close supervision is needed for safety. One man we have worked with, who has cerebral palsy, makes intricate stained glass pieces using a variety of mouth sticks!)
- Latch Hooking.
- Candle Making.
- Tie Dying. (T-shirts, socks, fabric for hair scrunchies, etc. can be dyed.)

- Batiking.
- Making Greeting Cards. (Photographs with colored paper framing, melted crayon swirls, stenciled designs, computer images, etc. can be used for card making.)
- Weaving. (Rag weaving uses strips of ripped cotton fabric, which are easy for many individuals with physical disabilities to manage, twisted in a simple pattern around a warp of durable strings. A strip of wood can be Velcroed in place across the loom to pull out an isolated string as a guide for the weaver. We have had success weaving stool seats with Shaker tape; the tape is durable and easy to manage. Once a four harness table loom is warped, many individuals can enjoy the actual weaving process. Tube jigs are sometimes helpful to keep weavers from catching warp strings as they slide their shuttles through the loom.)
- Making Holiday Decorations/Ornaments.
- Necklace Making. (A Styrofoam bowl turned upside down and taped onto a Styrofoam plate creates a tray with a groove around the edge. Beads can be arranged in this groove and taken off in left to right sequence to insure pattern following. Some individuals with limited bilateral motor coordination can insert a leather lace into the hole of a bead if the bead is stabilized in a wood clamp.)
- Decoupage. (Unfinished, brown cardboard boxes can be purchased at many craft stores. Tissue paper, light weight marbleized paper, and textured unryu paper in complimentary colors can be cut into small pieces. Mod Podge, a decoupage glue, can be painted onto the bits of paper. These gluey paper bits can then be smoothed and overlapped onto the box inside and out with careful bending around edges and corners. The resulting decorated boxes look great!)

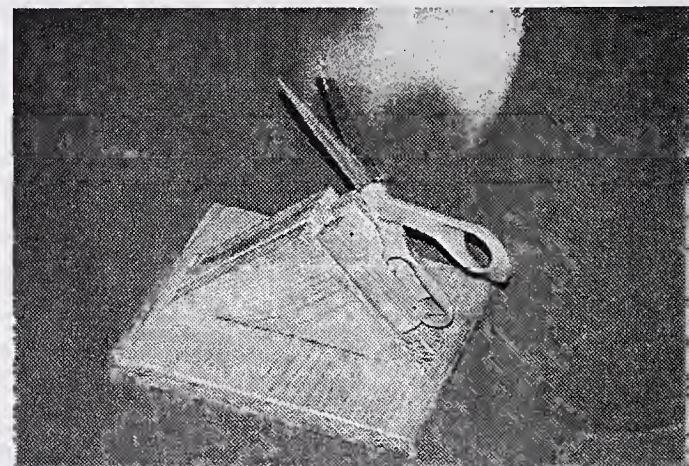


ADAPTIVE EQUIPMENT

ADAPTATION: MOUNTED SCISSORS

DESCRIPTION

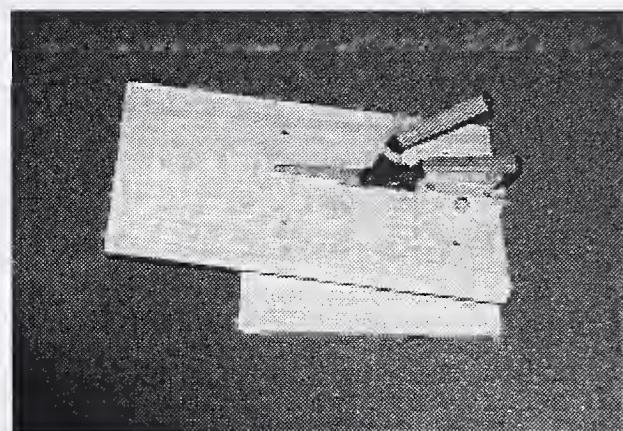
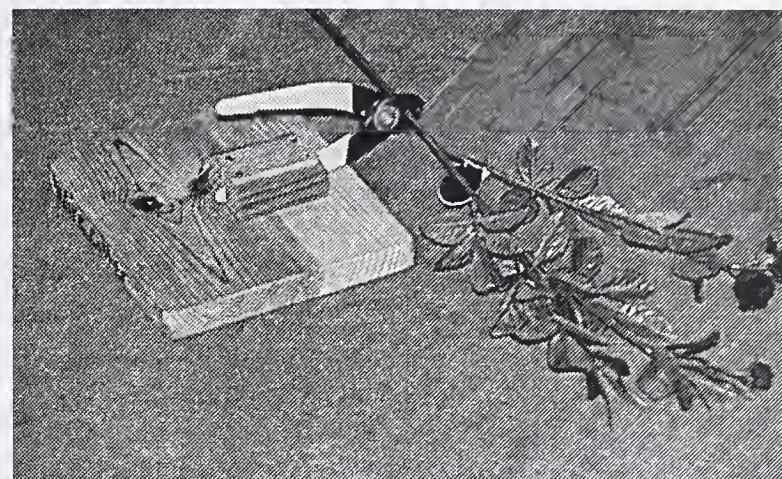
Many adults with developmental disabilities have difficulty cutting. They may not have adequate forearm supination to stabilize the scissors in a vertical position. They may not have the pinch strength to cut cloth or cardboard. They may not have the visual perceptual or motor planning abilities to cut continuously along a given line. Many of these individuals like to at least be able to cut with a partner using mounted scissors. Mounted scissors should be clamped to a table or wheelchair tray. The individual can either hook their finger through the top hole in the scissors and move them up and down, or he/she can bat at the raised scissor end to cut. The instructor



holds the cloth in position, instructs the cutter, and monitors the individual's safety.

Instructions for Constructing Mounted Scissors: First buy a good pair of scissors that will easily cut cloth. Make sure the scissors have a plastic handle. Find a piece of wood that is between 4" and 6" wide. Measure the exact width. Measure and mark an equal length so that you have a perfect square. Draw a diagonal across the square. Measure a second square and mark a second diagonal. Saw the wood so that you have three isosceles triangles. Glue the three triangles together so that it looks like you have a nice sandwich cut on the diagonal. We like scissors that have a fairly large base (about 8" X 8" is good). Glue the "sandwich" so that the longest side of the triangles is against the base. Let the glue set. Next drill two holes through the bottom of the larger, bottom loop of the scissors. Find long narrow wood screws to turn into these holes. Set the scissors up on the middle triangle high enough so that they will freely open. Mark where the screws will go into the frame. Pre-drill them. Screw the scissors onto the incline. We usually cut two short lengths (3" or 4") of 3/4" X 3/4" wood stripping to use as side supports along the bottom scissor loop.

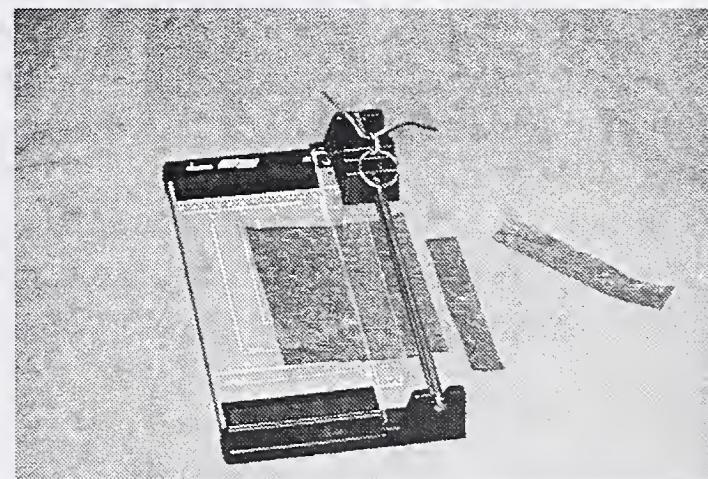
The bottom handle of a pair of wire cutters can be stabilized between two strips of wood on a base to make a very similar cutting adaptation. We have also had success mounting spring style scissors. An angled, stabilized platform with a slot through it lines up with the top blade of the open scissors making a safe and easy to use cutting modification for individuals with poor motor control.



ADAPTATION: SLIDING PAPER CUTTER WITH RING PULL

DESCRIPTION

Mounted scissors work beautifully for cutting cloth but not as well for cutting paper with smooth, straight edges. We have discovered that paper cutters with sliding box cutters (rather than a formidable knife-like lever) are very safely used by adults with disabilities. Most cutters of this style have rulers running in both directions so that it is easy to cut carefully measured pieces of paper with perfectly

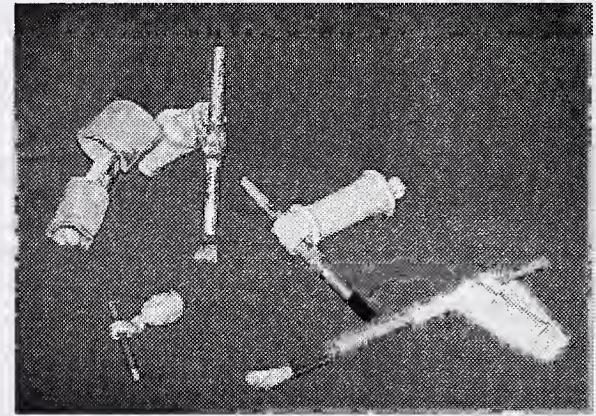


straight sides. This can come in handy for greeting card making projects. If a small hole is drilled through the raised plastic on the top of the sliding box, a key ring can be tied onto it. It is easier for some individuals to pull the box if they hook their finger through the ring rather than pushing at the box itself. The cutter can be clamped onto a table or wheelchair tray to keep it in place.

ADAPTATION: CUSTOM MADE PAINT BRUSH HANDLES

DESCRIPTION

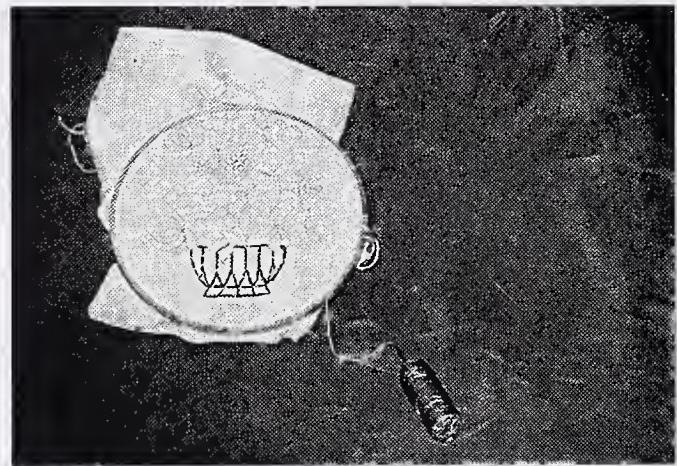
Alternative handles are more important for individuals with physical dysfunction than for individuals with only cognitive impairments. It is important to look at the typical position of the person's hand and their movement patterns before planning the handle. Splinting material can be molded into the necessary shapes around the brushes. Velcro straps can be added if the individual tends to randomly release the brush.



ADAPTATION: NEEDLE PULLER

DESCRIPTION

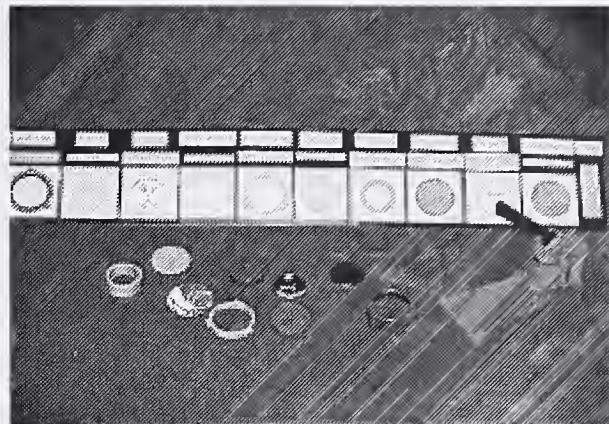
Individuals with severe physical limitations or inattentiveness can safely participate in hand sewing activities if they use a needle puller. To make this needle puller you will need a piece of foam tubing (the type that is used to build up handles) that is about 5" long. You will need to cut another thin strip of this tubing to tightly fill in the hole. Wrap duct tape all around the foam to keep the insert from coming out. The needle puller is ready (it may not be pretty, but it should work!). The instructor pokes the needle into the needed spot in the cloth and then pushes the needle puller around the end of the needle. The adult with developmental disabilities then grasps the foam handle and pulls. If the thread is fairly long it can be a good way to sneak in some active range of motion activity.



ADAPTATION: PICTORIAL BUTTON MAKING SEQUENCE JIG

DESCRIPTION

Button making requires several rings and discs (as well as the metal bases, pin backs, plastic overlays, and cool pictures that will eventually make up the finished product) that must be stacked and pressed in the correct sequence. To most button makers the order of piece placement is a mystery. A pictorial sequencing jig can help. Pictures and names of the parts are glued, in the same left to right sequence as the order in which they will be needed, along a strip of cardboard or vinyl (contact paper is used to protect the pictures). The first step for many individuals working at button making can be to match all parts to the pictures in the jig. They then pick up parts, starting from the left, so as to be prompted through the steps of the task. If blind individuals are completing the project the jig can be made with several wooden dividers breaking up the strip. The parts are laid out for them in the correct order, and they must pick up the pieces in left to right sequence in order to complete the project.



ADAPTIVE WOODWORKING AREA

(WRITTEN BY SCOTT WHIDDEN)

RATIONALE

A properly adapted woodworking area can be a valuable therapeutic component to a program that serves individuals with physical and/or developmental disabilities. Woodworking projects can be motivating and fulfilling. At the same time, they can address exercise and physical therapy needs. Generally people with significant disabilities become convinced that they are incapable of doing the kind of physically demanding activities associated with woodworking, but a well adapted woodworking room can help to reverse such learned helplessness. Because many projects are long term and happen in stages, woodworking can help generate a sense of continuity and self direction in individuals that might otherwise feel under motivated and bored. Ideally, people should choose and participate in the design of their project and follow it through to the finished product. They should be made to feel in charge of their projects, as they will be doing most of the actual work. Ideally, staff participation should rarely go beyond positioning and clamping wood, setting up various adaptive jigs and monitoring for safety.

Good candidates for a woodworking program demonstrate the ability to follow directions, understand that they are creating a product, and adhere to safety precautions. This environment is not suitable for people with significant cognitive impairments who require a great deal of support to be safe, or who may not understand the purpose of what they are doing.

A staff person with some background or interest in woodworking would make a good manager for this area. There are basic woodworking books that have excellent project ideas with specific directions and illustrations. We have found that some activity books for children have good simple projects that are appropriate for adults. Some directions that have been targeted for adults need to be simplified. We have included a few suggestions in our reference section and encourage interested readers to use those materials for additional information on working with wood. In the following section we will describe some adaptive equipment and techniques that have been successful in the woodworking environment. Please feel free to experiment with these designs to improve and adapt them further for the population that will be using them.

A Note on Safety: Woodworking activities are more inherently dangerous than many of the other projects described in this book. Power tools are used only by those individuals who have shown that they are safe with them. Electric sanders, dremil tools and the drill press are the power tools most often used by program participants. Participation in projects with power tools is often limited to turning on the power with an adapted switch or pulling the drill down from a distance using a pulley system. We have individuals use mitre saws, coping saws or hand saws; they do not have access to potentially dangerous jig saws or table saws. Individuals should always wear safety goggles when splinters of wood could be flying from their projects. Precautionary measures for use of glues, stains and other finishes should always be followed. The instructor in the woodworking environment should never set up an individual to complete a step of a project without being certain of his/her safety.

GENERAL THERAPEUTIC GOALS

- To maintain/improve gross motor sub-skills including range of motion, strength, proximal stability, posture, weight bearing, etc.
- To maintain/improve sensory integration skills including motor planning, eye hand coordination, bilateral motor coordination, etc.
- To improve self esteem and provide a sense of focus and accomplishment.

PHYSICAL SPACE

A large, brightly lit, adequately ventilated room with well spaced adaptive woodworking stations positioned along the walls and a large central area for traffic is recommended. It would be good to have the room somewhat isolated from the rest of the program as the sound of power tools may be disturbing to some of the other groups. Since

woodworking is a dusty occupation, it is best to not try to have the woodworking area used for other activities.

SUGGESTED ROUTINE/FORMAT FOR GROUPS

Participants who will be working independently on projects, such as using miter saws or sanding, should be set up first. Staff should make sure that all wood is firmly clamped down and that wheelchairs are positioned directly in front of the miter saws with their breaks locked. Individuals who will need intermittent assistance to work should be set up with their projects next. Examples of such projects include the use of adaptive drill presses, gravity hammers, or the application of paint or wood stain with built up brushes. Finally, spend time working with those people who require more one to one time. For instance, some individuals' participation may be limited to the activation of power tools wielded by staff members via the use of a power link and adaptive switch. Expect to be interrupted several times to adjust bungee cords on the miter saws, set up and clamp new boards to be cut, turn over sanding projects in their clamps, reposition and clamp wood for drilling and so forth.

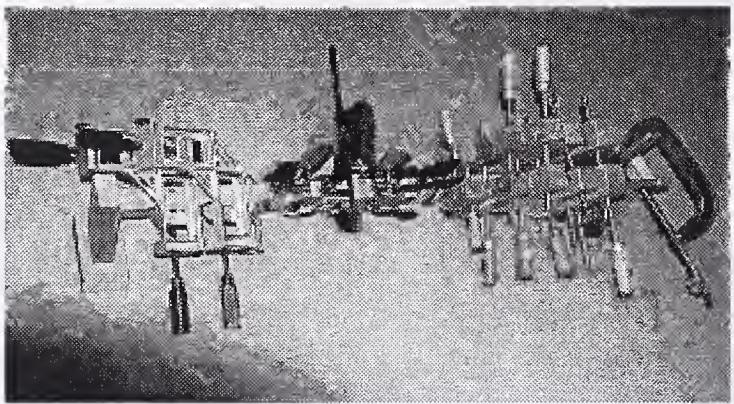
COMMUNICATION AND ENVIRONMENTAL CONTROL

Individuals who are good candidates for participation in a wood working environment should demonstrate the ability to plan projects and attend to directions related to the use of tools. Typically, these individuals are competent communicators even if they use AAC. However, this environment depends on the use of adapted workstations. As a result, most trays, notebooks and electronic devices are often "in the way". Therefore, it is important that woodworking staff establish expectations clearly and discuss potential hazards prior to set up. If possible, AAC devices should be kept in sight for quick access. It is helpful to have visual displays on the walls near each work station with pictorial and/or written instructions, especially those relating to safety. It is best to avoid leaving workers in an unsupervised situation; if this is unavoidable, make sure that signaling devices (e.g. bells, buzzers, etc.) are available.

INDEPENDENT ACTIVITIES

Once the group leader has checked every jig and tightened every clamp, many activities in a well adapted woodworking room can be essentially independent. Independent activities are empowering for people who have come to expect that everything has to be done for them because they are "incapable". They also free up staff so that groups can run smoothly. One of the keys to setting people up on independent activities is to downplay the need for staff assistance and emphasize the independent work. Always be certain, before setting people up to work independently, that they are familiar with the work station and feel safe.

GETTING STARTED - THE IMPORTANCE OF CLAMPS



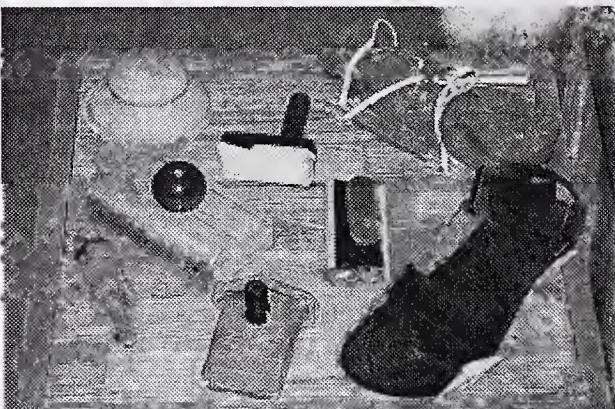
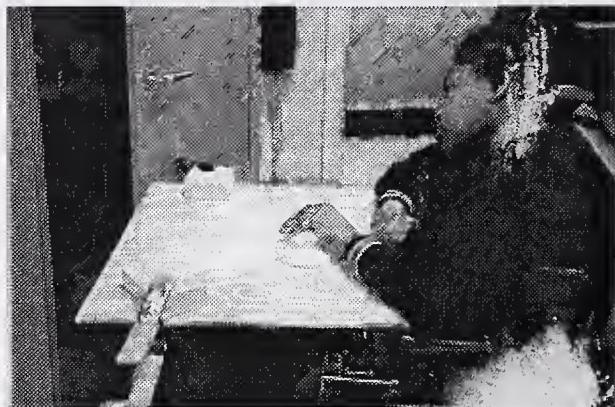
Any woodworking room requires a large number of various sized wood clamps and C-clamps. Quick grip clamps and spring clamps can also be useful. Wood clamps can be set up to clamp at a variety of angles for odd-shaped projects. One wood clamp can be C-clamped, laying flat, to a table top or wheelchair tray and itself used to clamp another wood clamp standing upright. This makes a mounting system ideal for painting or staining which is repositionable for people with limited range of motion.

Once armed with a fleet of clamps, one should get to the business of actually making the adaptive work stations. Some of the basic activities which may have to be adapted include: sawing, drilling, hammering, screwing in bolts and screws, and brushing on paint or stain. There are several ways of adapting commonly used carpentry tools but one should always first ascertain whether or not the people in question can safely use standard tools. The best adaptation is always the least.

ACTIVITY: SANDING

DESCRIPTION

Sanding is an activity that most people can perform independently. It is also an activity that is almost always in demand. Some participants will be fine with a piece of sandpaper and a board to sand, but for those with less fine motor control, a variety of sanding blocks are available at most woodworking stores. It is usually a good idea to stabilize the work with a wood clamp, unless the participant has full use of both hands. Staff may be called on to check on the work from time to time to see if it needs to be turned over and re-clamped. It is advisable to set people who have very little physical strength with the roughest grades of sandpaper so that they can better see the physical results of their labor.



DESIGN/CONSTRUCTION

You may find that for some people the store bought sanding blocks are hard or impossible to use. You may have to make your own sanding blocks or modify the store bought

ones. If you wish to start from scratch, a piece of a 2" X 4" can be used as a base for a sanding block. You can attach whatever handle the individual can best grasp. For instance, a rubber or wood ball can be screwed on the top, and sand paper can be tacked or duct taped onto the bottom of the block. For people with some arm control but limited grasp, you can attach a small flat board via duct tape to an oven mitt then tape the sandpaper on the bottom of the board. If an individual can only use his feet, an oversized sandal with a flat bottom can be modified to make a serviceable sanding block. In cases where a good independent sanding system can not be found for an individual, the use of an Ablenet power link and an adaptive switch can allow a person to participate with a staff member using a power sander.

ACTIVITY: THE MITER SAW

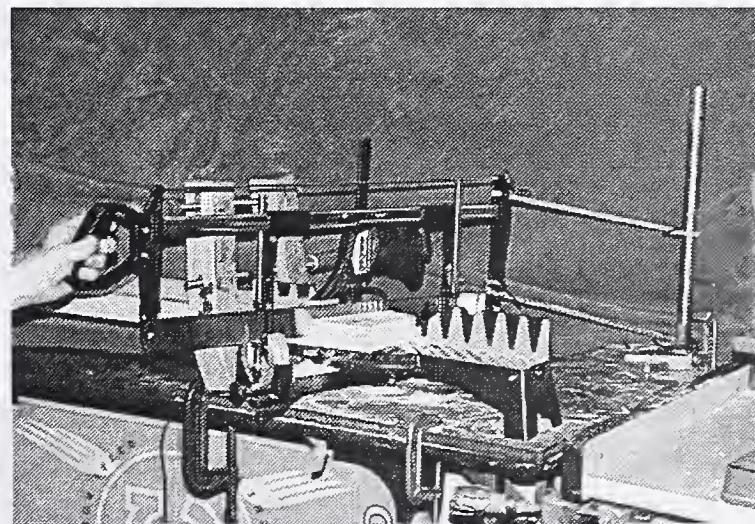
Miter saws are a very good way to improve both the accuracy of work and the safety of people. With adaptations, they can also allow individuals with little or no control of their arms to saw. The use of this tool is an integral component of almost all projects, and once set up, most people are fairly independent with it.

DESIGN/CONSTRUCTION

A miter saw is a tool used by carpenters to make accurate cuts in boards. It consists of a narrow bed, approximately 6" to 8" wide, in which wood can be placed and clamped by staff. A saw sits above and across the bed, secured in sliding runners. The saw can be raised up and can saw down, but the runners will not permit it to deviate from the angle at which it was set across the wood. Most miter saws can be set to cut boards at a variety of angles from 90 degrees to 45 degrees, so they are useful for making frames and many other projects.

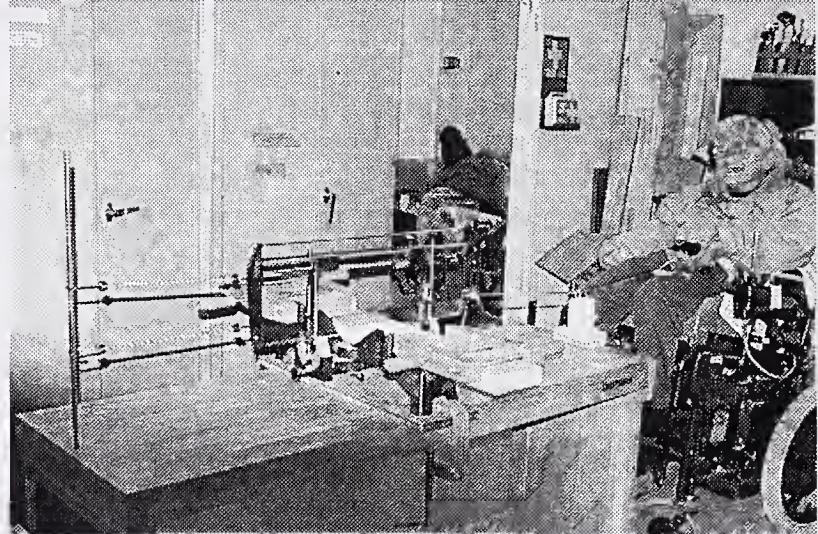
For many people the miter saw will require no adaptations whatsoever. Simply clamp or bolt the saw to the top of a sturdy and heavy table, clamp your board in place and let them saw. However, for people with poor upper extremity control, there are progressive adaptations that can be made to the setup.

Many people have more control pulling a saw than pushing it. By attaching bungee cords from the back of the saw to a metal bar rising up from the back of the table, the need for pushing can be eliminated. Once the proper tension has been placed on the bungee cords, the person only needs to pull and then let the bungee cords pull back. An alternative approach is to replace the bungees with a rope that is pulled by a second person, but this 'lumber jack' setup requires two people who are attentive and



cooperate well with one another. People who do not have the use of their hands but who have good trunk control can be set up by attaching a rope from the handle of the saw to a chest belt or harness. The person saws by rocking back and forth in his or her wheelchair. The staff should watch carefully for signs of back pain and always consult with a physical therapist before setting a new person up with this jig.

There is an alternative way of setting up the task for people who have significant incoordination, or who, for other safety reasons should sit a little further back from the saw. In this setup it is best to station the saw in the middle of a long, sturdy table, with the saw blade aligned with the length of the table. The bungee cords are still attached from the back of the saw to the metal bar at the far end of the table. Tie a nylon rope to the handle. This rope passes through two sturdy eye-screws which are mounted in a raised block of wood which is clamped to the end of the table. On the other end of the rope, attach whatever built up handle you deem appropriate for the individual. The eye-screws eliminate any wild, extraneous motions, thus protecting individuals by distancing them from the saw, and protecting the saw from damage from being man-handled.



ACTIVITY: ADAPTIVE DRILLING and THE ADAPTED DRILL PRESS

DESCRIPTION

Most woodworking projects will require the use of a drill at some point. Unfortunately, using a hand drill requires the strength, stability, coordination, and/or cognitive/perceptual understanding that many disabled people lack. When a staff person uses an electric drill, people can participate by using an AbleNet power link and an adaptive switch to turn the drill on and off.

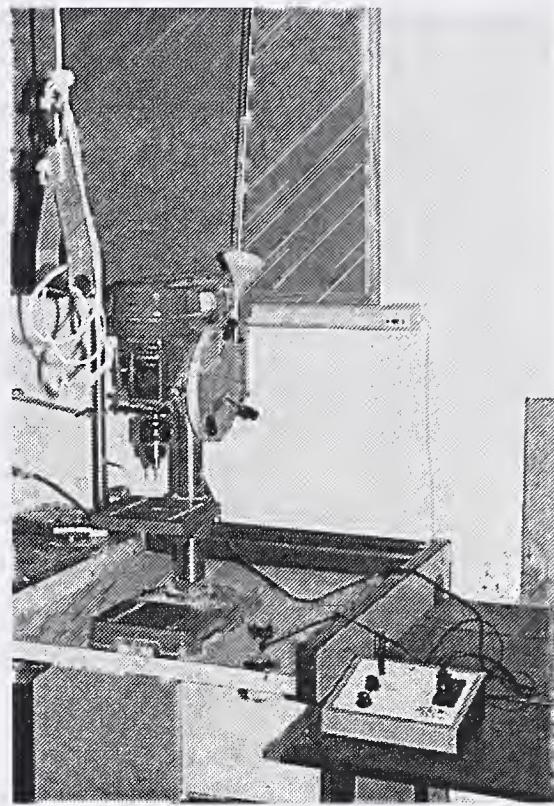
An appropriately adapted table mounted drill press gives people a more independent option for drilling. Since a drill press is designed to reduce human error it can help solve some of the problems encountered by individuals with disabilities.

First, find out if the individual can safely use a standard drill press on a lowered table. Some models can be operated with a single lever, which can always be built up a bit if necessary. If the person can operate the lever and the on/off switch and is safe with her or his hands and arms crossing so close to the drilling area, further adaptations may not be necessary. However, for individuals with poor coordination, limited range of

motion, or inconsistent attention to task, a less "hands on" approach is available. The pulley and bike cable systems described below allow individuals with disabilities to operate a drill press at a distance from the drilling area.

DESIGN/CONSTRUCTION

A pulley system can be a good way to adapt the press if you have a drop ceiling with strong girders. Position the drill press under the girder. A large pulley can be fabricated and placed over the three handles used for operating the drill press. Two small pulleys are also used. One small pulley is lashed to a girder in the ceiling directly over the crank mechanism. A second small pulley is lashed to the girder in front of the press where the individual will sit. A thin rope is secured along the edge of the large pulley, strung up and back along the groove of this pulley, pulled across the two ceiling pulleys, and left dangling at a convenient height for the user to reach. Any type of built up handle can be attached to the end of this rope. Once the wood is securely clamped in position under the press, the individual can turn on the drill with a switch, using the AbleNet power link, and pull on the pulley handle to bring the drill down to make the hole.



If there are no usable girders in your facility it is possible to modify the drill press with bike cable. Instead of running a rope around the large pulley and then up to the ceiling, a steel cable runs around the large pulley and then down into a hole in the table, to the rear, and in line with the plane of the pulley. Under the table, the flexible casing carries the steel cable back to a raised mounting jig that can be clamped to a wheelchair tray or small table. When the person pulls on the ring-handle which is secured to the inner cable, the inner cable is pulled through the mounting jig, through the flexible casing and up through the hole in the table to rotate the pulley and sink the drill down into the wood. (For detailed descriptions of how to construct both of these modifications refer to the Adapted Woodworking Handout by Scott Whidden listed in the reference section.)

ACTIVITY: WORKING WITH SCREWS, BOLTS AND NAILS

DESCRIPTION

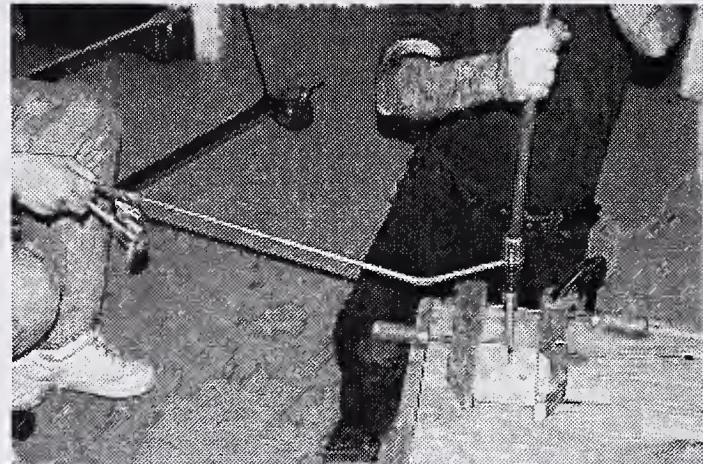
After the wood has been cut and pilot holes drilled, the real fun of a project is putting it together. Many people are in danger of being left out of this empowering experience because they can not properly wield hammers or screwdrivers. Of course, hand over hand hammering and screw driving is an option, and an appropriate one, especially for

people who can develop greater control through the practice. However, for individuals who are in no way going to be able to develop the coordination to use these tools there are other options available to allow people to participate in these tasks.

DESIGN/CONSTRUCTION

USING A SCREWDRIVER

If an individual has some fine motor control, but not enough to use a traditional screwdriver, try a ratcheting screwdriver with a magnetic screw driving bit. With luck, this may be all you'll need. If you are working with someone more involved, you may have to do some modifications to the ratcheting screwdriver and turn this into a one to one project. If the person in question can supply a few inches of forward and backward pushing and pulling, you can use the ratchet to harness this motion. A staff member will still be necessary to stabilize the angle of the screwdriver, but the person will be doing the actual work of driving the screw.



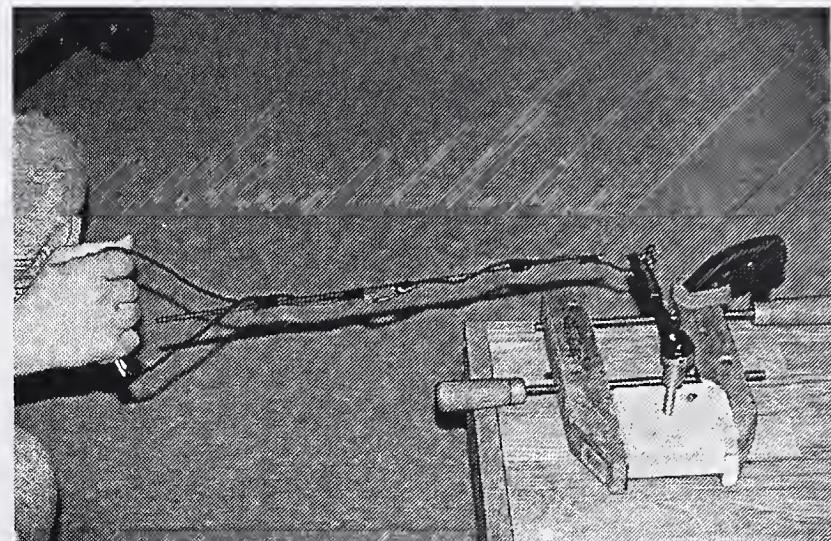
You will need to drill two holes into the handle of the ratcheting screwdriver. First, bore a 3/8" diameter hole through the pommel and directly down into the core of the handle to about the halfway point. Make sure that the hole is drilled precisely straight down the center of the handle because this hole will be used by staff to stabilize the screwdriver against the person's pushing and pulling. Drill a second, 1/4" diameter hole, just below the first, perpendicularly through the body of the handle.

Use a hacksaw to cut a 1/4" diameter steel rod down to 6" long. Insert the rod into the 1/4" hole and epoxy it into place so that approximately 5" of it are sticking out of the side of the screwdriver handle. Now cut a 1/4" dowel to 2 feet long. This dowel will become the person's handle, so design whatever built up handle at one end of it that you think appropriate for the targeted individuals to push and pull with (a "T" shaped handle or a ball handle are two good options). Connect the steel rod to the wood dowel by stretching a 1/4" piece of rubber tubing over the ends of the both of them. Epoxy the rubber tubing in place. The tubing should form a joint that will allow the screwdriver's handle to rotate back and forth slightly as the person pushes back and forth on the handle. Insert another steel rod, this time 3/8" diameter, into the 3/8" hole at the top of the screwdriver. The rod should be able to rotate within the hole so you may have to widen the hole slightly or apply some oil. Now the jig is complete. As the person pushes back and forth on his handle, the staff member keeps the screwdriver in line with the screw by holding onto the larger steel rod with both hands. The person's rocking motion is translated by the screwdriver's ratchet into rotational motion and down goes the screw through the pilot hole and into the wood.

DESIGN/CONSTRUCTION

TURNING LAG BOLTS

A socket wrench can be a handy tool. Because it is a ratcheting tool it requires much less wrist motion than a traditional wrench. Still, many individuals with poor hand control tend to twist it off of the head of the bolt as soon as they start to use it. One way to compensate for this lack of precision is to adapt the socket wrench with a jointed handle segment similar to the ratcheting screwdriver's adaptation.



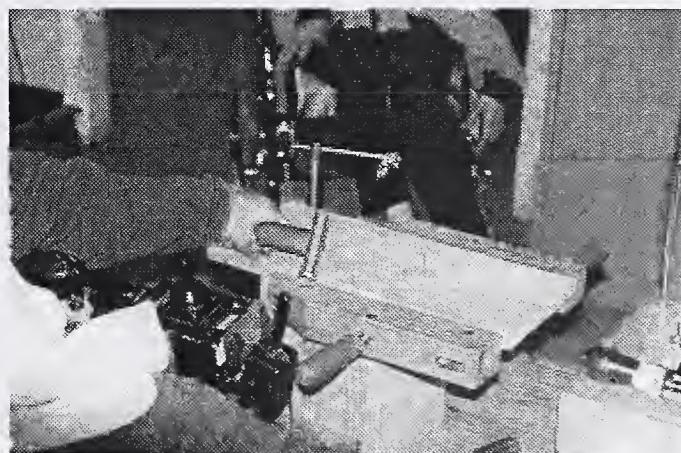
Use a titanium drill bit, and preferably a drill press, to drill a 3/16" hole through the flat part of the handle, near the end (this job will be easier if you are working with a cheap brand of socket wrench made from recycled metal). Thread a thick gauge copper wire which is available at an electronic supply warehouse, through this hole. Fold the copper wire back so it has a double thickness and bend it at the far end into a loop for easy gripping. Wrap the double thickness of copper wire with duct tape and you have an extended handle that can be bent to suit the individual's ergonomic needs. If this segment starts to buckle from the resistance of the bolt or lag-bolt that your person is driving, you may need to reinforce the copper wire by duct tapping a dowel to the length of it.

A staff member will probably still be required to hold the head of the socket wrench lightly and keep it from twisting off of the head of the bolt. The jointed handle segment eliminates only some of the extraneous twisting that can upset the wrench. The user would have to have a very light touch, push along the plain of the wrench, and have the socket fit very snugly over the bolt head for this to become an independent activity.

DESIGN/CONSTRUCTION

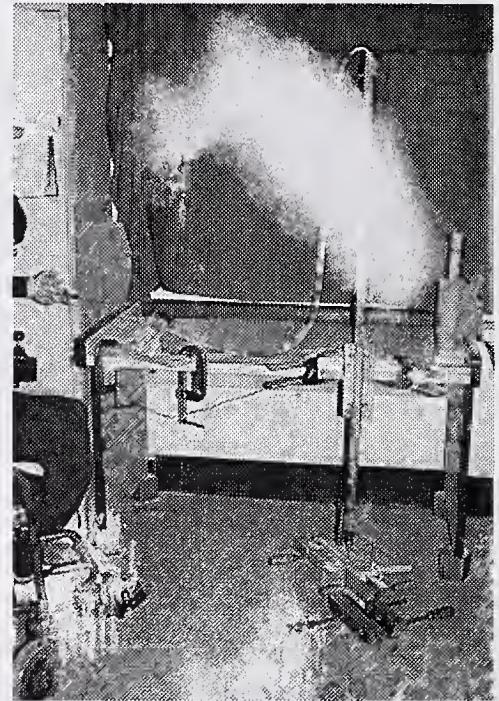
DRIVING NAILS

The best approach for driving nails varies with the severity of disability of the participant. If the individual can grasp the hammer and strike the nail but lacks the control not to fold the nail over in the course of hammering it, try using a nail driver. A nail driver is a relatively inexpensive hand tool that keeps nails from bending over while at the same time giving the hammer a bigger target area to strike. Nail drivers consist



of a metal tipped pommel/handle for striking and a narrow steel sheath that fits over the nail. Within the sheath is a striking pin. As the hammer strikes the pommel, the steel sheath retracts into the body of the pommel and the tiny striking pin drives the nail. The nail driver will, of course, need to be held upright by either the participant or a staff member. If the person holding the nail driver feels some concern for the safety of their hand, you may wish to hold it from off to the side using vice grips or a monkey wrench.

If a traditional hammer is out of the question, there are still ways for the physically challenged individual to independently drive nails. If the person has the ability to pull against moderate resistance (3 lbs) over a distance of 2 to 3 feet then a gravity hammer is an alternative to traditional hammering. A gravity hammer works on the same principle as a pile driver. It basically consists of a hollow tube that holds a weighted ramrod above a dedicated nail driver. A thin steel cable is fastened to the ramrod. The steel cable rises up to the top of the tube and through a flexible bike cable casing to a raised mounting jig and pull ring which is used by the participant. As the participant pulls the pull ring, the cable draws the ramrod up to the top of the tube. When the pull ring is released the ramrod drops and strikes the nail driver on the pommel, driving the nail into the wood. (For a detailed description of how to construct this gravity hammer refer to the Adapted Woodworking Handout by Scott Whidden listed in the reference section.)



ACTIVITY: BRUSH WORK

DESCRIPTION

After the work has been put together and sanded, the final step is to either paint it, stain it, or wood seal it. While brush work does not require any great strength, it does require a good deal of fine motor control. Individuals with limited range of motion or extraneous movements can find using paint brushes very frustrating, not to mention very messy. Plastic aprons, plastic bags stretched over tables and disposable bowls to hold the paint, stain or sealer will help reduce the mess. Traditional paint brushes or foam brushes can be built up for easier grasping or even strapped into the palm of a participant's hand. If stain or sealers are not applied with even strokes the end result is blotchy. A staff person may need to work with an individual to smooth out the applied finishing coats.

DESIGN/TECHNIQUES

Projects may have to be angled in wood clamps for painting if wrist extension is

severely limited, or they can be periodically repositioned to accommodate for limited range of motion. Hard to reach areas may have to be touched up later by staff. Brush handles such as those described in the craft section can be tried. Individuals who do not have the use of their hands may have success using other body parts. Brushes can be taped to the ends of mouth sticks or head sticks for successful painting.

COOKING/DOMESTIC ENVIRONMENT

RATIONALE

Food preparation can be a very reinforcing activity; it is naturally “multi-sensory”, and has an edible pay off at the end. Higher level individuals can enjoy planning and participating in the creation of a menu. Cooking projects for Sensory-Motor level people work best when they are simple and frequently repeated. Most individuals require a lot of support to complete cooking projects. As when running a craft activity with a large group of people, it is important to have some individual projects available to engage people while they are waiting for their opportunity to cook.

A kitchen lends itself to several functional tasks other than cooking. Rinsing dishes, loading a dishwasher, doing laundry, rinsing and sorting recyclables, etc. can be accomplished in the kitchen.

GENERAL THERAPEUTIC GOALS

- To increase independence in simple food preparation routines.
- To increase independence in basic domestic skills.
- To improve fine motor skills (jar opening, can opening, chopping, spreading, etc.).
- To improve cognitive skills (cause and effect, basic constructions with objects, sequencing steps for simple recipe following, measuring, sorting, etc.).

PHYSICAL SPACE

Cooking/domestic activities should take place in a clean, well lit kitchen with plenty of counter and cupboard space. There needs to be room in the kitchen for tables and chairs. It is important to make sure that all participants have functional sitting positions. Table heights should be adjusted and footrests for chairs added as needed. A large step platform may also be needed to enable shorter individuals to comfortably stand at the counter to cook. Independent activities should be neatly stored on accessible shelves. Recommended appliances include the following: sink, refrigerator, stove, dishwasher, washer, dryer, microwave, toaster, pasta maker, blender, food processor, popcorn popper, mixer, power link and switches.

SUGGESTED ROUTINE/FORMAT FOR GROUPS

All group participants enter the kitchen and sit in their familiar places. They are provided with initial individual projects. It may be that not all individuals will eventually work with food on a given day. Half the group might work on laundry and recycling while the other half cooks. One by one those people that will cook walk to the sink, wash their hands, reach an apron or smock, put it on, and return to their seats. The cooking project is then initiated. One to one instruction is often needed for food activities, so the other cooks continue with their individual tasks until it is their turn to work with the food. The individuals that are working at domestic tasks also alternate work on individual projects with individualized instruction on the targeted chores, more skilled people will need less individualized instruction: they can spend more time on the real, functional tasks and less on the reusable individual projects. Each kitchen session can end with a snack for everyone. Individuals throw away their snack scraps, take off their aprons, and get ready to leave.

COMMUNICATION AND ENVIRONMENTAL CONTROL

The kitchen environment naturally presents a variety of activities and choices. As with the other environments described, shelves and cabinets labeled with pictures help facilitate independent selection and replacement of independent activities, utensils and other tools. These labels also help staff members keep materials organized.



Vocabulary on individual AAC devices should reflect general kitchen and domestic needs (e.g. foods, utensils, appliances, etc.) so that the users can access information, make requests and comment while in the kitchen. Once again, for AAC users who do not have easy access to their personal devices when cooking or doing other domestic tasks, or who are just beginning to use symbols for some highly preferred activities, posting pictures or remnants of activity choices on mini-boards or dynamic displays is a useful approach.

Environmental displays placed on table tops can be used in a variety of ways. Pre-setting pictures of a spoon, bowl and measuring cup on a slanted Veltex board can allow a participant to independently gather materials to make pudding. Pictures of loading the dishwasher, doing laundry and hanging clothes can cue participants to make activity choices. With higher functioning people, placing pictures of food items on a portable display can be an effective means to follow a recipe, plan a menu or make a shopping list.

During bake sales, simple voice output devices can be used to entice potential customers

(e.g. "We've got homemade banana bread today!", "Hey, how about some ice cold lemonade?", or "We're having a bake sale. Time to treat yourself to something sweet!").

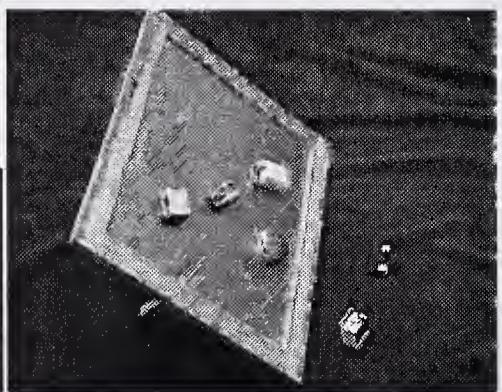
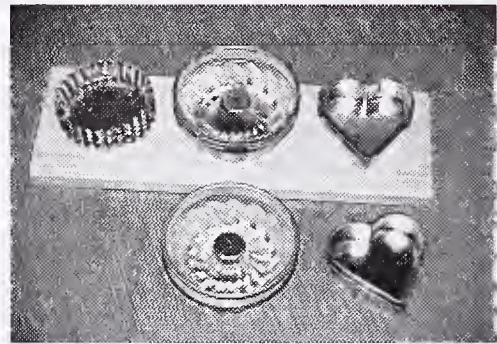
INDEPENDENT ACTIVITIES

Examples of good independent activities that relate to cooking or domestic skills, from simple to complex, include the following:

- Pulling refrigerator magnets, some are tiny replicas of hot dogs, hamburgers and other food items, from a metal tray slant board and placing them in an open bin.
- Arranging plastic fruits in a large bowl or basket.
- Placing food, cooking or chore pictures that have been mounted on vinyl or mat board and covered with contact paper onto a Veltex slant board to make a collage.
- Inserting cookie cutters, miniature wooden kitchen items, refrigerator magnets, pot scrubbers, or other kitchen/domestic items through holes in the covers of containers. More complex several item insertion tasks can also be set up with materials that relate to this environment.
- Standing up large wooden spoons (bowl end up) in a hole rack.
- Opening a series of containers to retrieve an edible (the outside container might be a lunch bag with a zipper, inside that is a large closed Zip Lock bag, inside that is a Rubbermaid jar with a twist on lid, and inside that is a tasty morsel!).
- Sliding several coasters vertically into a coaster holder.
- Sorting and stacking plastic drinking glasses of varying diameters when one of each of the three or four sizes of glasses has been secured to a base board.
- Hanging potholders on a large hook mounted on a vertical board with base supports.
- Hanging cooking utensils or measuring spoons by the holes in the handles on a row of hooks on a vertical board.
- Hanging aprons on a wall mounted rack.
- Sorting and stacking small varied shaped cooking tins when one of each of the three or four shapes of cooking tins has been secured to a base board.
- Matching eating or cooking utensils to contacted pictures that have been placed under hooks on a vertical board.
- Placing spice containers sideways into the holes of a lazy Susan style spice rack (Kamenstein makes a rack like this). To ensure safety, the heavy glass jars that this comes with should be replaced with plastic jars of the same size.
- Inserting a penny into the slot of a gum ball machine, turning the handle, and retrieving the edible.
- Hanging laundered aprons onto a pegboard rack.
- Hanging cups on a cup rack or on cup hooks inside a cupboard.
- Loading the dishwasher with unbreakable items.
- Sorting drink stirrers by design or color.
- Sorting silverware.
- Counting and bagging spoons, spatulas or other kitchen items (using a 2 or 3

dimensional counting jig as needed).

- Wrapping silverware sets in napkins and securing them with paper rings or placing them in bags. A stabilization jig may be useful for holding the silverware in a stacked position while folding the napkin around it. Matching jigs could also be used.



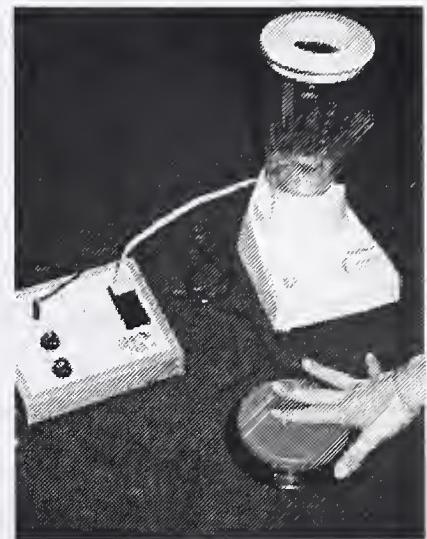
RECOMMENDED ACTIVITIES

The complexity of the chosen cooking project needs to match the cognitive capacities of the participants in the group. The most frequent mistake made is to choose food preparation activities that are far too ambitious; the staff people then end up doing most of the work while the participants are under-stimulated. The activities chosen for individuals at the Sensory-Motor level should be rich in sensory input. These activities should have very few steps, require minimal use of tools, and not take too long to complete. The projects picked for Concrete Operations level individuals can last longer, have more steps and involve more tools (can openers, mixers, choppers, etc.). Potentially dangerous appliances and utensils (e.g. knives, oven, and stove) can often be safely used with close supervision. The food preparation activities which are briefly described below are separated by the skill levels required:

SENSORY-MOTOR LEVEL ACTIVITIES

- Explore Interesting Fruits. Assist individuals to feel, smell, peel, cut, and taste a pineapple, an orange, or a banana.
- Manipulate Dough. Since the dough is not intended to be cooked, a play dough recipe can be used. (In a bowl, mix about 4 cups of flour, 1 cup of salt, 1/2 cup of vegetable oil, 1 teaspoon of cream of tartar, a few drops of food coloring, and as much water as needed to make the mixture a good consistency. Knead it together until well mixed.) Roll balls of the dough against the surface of the palms of more passive people. Encase a finger in the dough and wait to see if the individual responds by removing it. Encourage poking, rolling, squeezing, etc.

- Make Blender Frappes. The blender can be set up with a power link adaptation so that a large switch can be used to operate it. Assist participants to put ice cubes, ice cream, or sorbet in the blender. Help them pour juice or ginger ale using a small pitcher. Hitting the switch creates a noisy and beautiful spectacle. Taste the results.
- Open Containers to Retrieve Edibles (see individual activities).
- Make Toast. Participants insert bread into the toaster slot and push down the lever. They remove the popped up toast, put it on a plate, and spread butter on it with assistance as needed.
- Spread Stuff on Crackers. Individuals work to open jars of peanut butter, jelly or cheese spread. Assistance is provided as needed for spreading.
- Make Juice. Use powdered mix or frozen juices. Adults with developmental disabilities pour pre-measured amounts and stir.
- Make Pudding. Individuals pull open the packages and empty them into a bowl. Again they can pour pre-measured liquids. An electric mixer can be set up with a power link and a switch, or a manual egg beater can be set up in a stabilization frame, or held by a staff person, so that the individual can concentrate on turning the handle.
- Make Chex Mix. People participate in pulling open packages and dumping them into a giant bowl. With glove covered hands they stir the mixture.
- Make Pop Corn. Individuals can scoop kernels into a popcorn popper. They can watch and listen to them pop and taste the results.
- Make Warm Spiced Cider. Pour cider into a pan. Smell each of several spices and shake a little bit into the liquid. Heat and serve (be careful that it is not too hot!).



CONCRETE OPERATIONS LEVEL ACTIVITIES

- Make Salad. People rip, rinse, and spin lettuce. They can use peelers on carrots. Other vegetables can be chopped or sliced. Individuals that are safe with sharp knives can use them. Others can perhaps use a chopping jar, an adapted cutting board with a knife in a stabilization frame, or a curved chopper.
- Make Fruit Salad. Peel, section, and slice fruits. Mix them together.
- Bake Cookies/Squares. Some individuals can begin to follow pictorial recipes. Measuring can be addressed as different sized measuring cups and spoons are marked with different colors so that they can be easily differentiated. The frequently needed oven temperature of 350 degrees can be marked with a red tape dot so more cooking group participants can individually preheat the oven. Baked goods can often be packaged for sale.
- Make Microwave Popcorn. Colored stickers can be used to mark the sequence of spaces to be touched on the microwave to begin the cooking.

- Make English Muffin Pizzas. Toaster use, cheese grating, jar opening, spreading, safe oven use, etc., are included in the activity.
- Make Nachos. Foil ripping, cheese grating, jar opening, oven use, etc., are addressed.
- Make Tuna Fish Sandwiches. An electric can opener or manual one can be used. Green pepper, celery, or carrots can be chopped. Juice can be squeezed from a lemon. Pictorial orders can be taken: does the person want white or wheat bread, toasted or not toasted, lettuce, or tomato on the sandwich? The sandwiches are made to match these requests, and then they are packaged and delivered.
- Make Pizzas as Ordered. Start with frozen crusts. Grate some cheese. Open the tomato sauce. Slice some pepperoni and peel the paper off the edges. Slice and saute some onions, peppers, and mushrooms. Take pictorial orders, prepare, and deliver.
- Make Chocolates. The activity will require safe use of the stove as chocolate morsels are melted and stirred over low heat. Balls can be made and dipped in the chocolate. Molds can be used. Chocolates can be packaged, etc.
- Stock the Soda Machine. Sodas need to be placed to match those in the same stack.
- Make Pasta. Use a pasta maker. Participants turn a crank and cut the outflowing pasta.
- Make Bread. A bread making machine can be used as directed. It can also be made according to traditional methods. Kneading the bread dough can be rhythmic and relaxing, and it can promote wrist extension and grasp strength.
- Snack Cart Project. A snack cart can be developed. During break time workers have the option of purchasing snacks from the cart. A Veltex menu board displays pictures of the available snacks with prices and photocopied pictures of the simplest combination of needed coins for those individuals who need to match the coins to get the correct change. In addition to selling the snacks, the operators of the cart are responsible for packaging them. Wearing latex gloves, people put handfuls of raisins, peanuts, cheese crackers, chips, M&M's or other available snacks into plastic bags. If these are Zip Lock type bags they pinch them shut. If the bags are plain they secure them by twisting wire ties around the tops.

ADAPTIVE EQUIPMENT

Many assistive food preparation devices to compensate for motor control limitations are available through adaptive equipment companies (Sammons Preston, North Coast, etc.). Alternative vegetable peelers, dycem mats to keep materials from sliding against the table, cutting boards with spikes for stabilizing vegetables, jar openers, etc., can sometimes be helpful for those with cognitive-perceptual limitations as well as physical inabilitys. Pictorial recipes can be made for even the simplest cooking tasks to help individuals follow the sequence of steps needed. It is easier to fill different cups to measure the correct amount than it is to fill a large cup to a given line on the side. If all measuring cups and measuring spoons are different colors it makes it easier to discriminate the right one. Colored dots can be painted onto the handles of the measurers if they

are all the same color. Red tape lines on the washer and washer dial can line up to identify the correct setting for starting the laundry. Another tape line on the oven temperature control can help individuals set the most frequently used heat. Dough dots placed onto a cookie sheet can help structure the spacing of the larger dough blobs.

ADAPTATION: BAG STABILIZATION JIG

DESCRIPTION

Several kitchen activities, such as work on the snack cart project, include a bagging step. Many people have difficulty holding a bag open while filling it. A bag stabilization jig can help. To make the jig, cut a piece of 1/4" plywood that is a few inches wider and a few inches longer than the bags to be used. Glue two clothespins, with the opening down, near the top. This board should be supported in a nearly vertical, slanted position. Cut the supports from a narrow strip of wood. If the wood is 2" wide, measure 6" in length, mark the diagonal and cut the two triangular supports. Glue and nail the supports to the back of the clip board. Cut a wooden base for the jig, and glue and nail it in place. The bag jig can be clamped to a table. The packager may be able to pinch the clothespins open to position the bag, or the instructor may need to complete this step. With the bag positioned it is easier to keep open for filling. Most individuals can pull the bag from the jig.



GREENHOUSE/GARDENING CENTER

RATIONALE

Growing potted plants to sell, raising vegetables, growing and drying flowers, and working the soil are valuable hobbies in which adults with developmental disabilities can participate. The joy of nurturing beautiful, living things should be shared with these individuals. Tending plants is a slow paced activity that can be very calming. Plant care activities are also extremely rich in sensory input. Both pungent and beautiful odors are encountered when turning or mixing soil



and handling herbs, potpourris, and other plant material. Feeling the sand, dirt, and water mix is very tactilely stimulating. Many plants also have interesting textures (lamb's ear is very soft, pine cones are rough, etc.). A blooming flower garden offers a visual feast of color.

GENERAL THERAPEUTIC GOALS

- To enhance self worth through participation in successful growing activities.
- To improve environmental awareness through rich sensory experiences.
- To improve fine motor skills (scooping dirt, using clippers, picking up small seeds, pulling dead leaves from plants, etc.).
- To improve cognitive skills (basic constructions with objects such as stacking and hanging, counting, sorting, learning concepts like "dry" vs."damp" when watering plants, etc.).

PHYSICAL SPACE

A greenhouse would be ideal for an indoor plant care environment. In most cases, however, a whole room is a luxury. Sturdy tables are needed for placement of the plants. A "wet table" with pebbles in its base allows for better drainage if plants are over watered. The tables should have built up edges on all sides to keep the plants from falling off the tables if individuals lean against them. Natural, unfiltered sunlight combined with the use of grow lamps is required. Neatly organized and labeled visible storage for all tools, pots and planting materials is needed. Tables and chairs, that provide functional positioning are needed for the individuals who will work with the plants. At GWARC, a few specially designed potting tables with side and back barriers have been helpful in confining the spilled dirt to a small area. People can sit or stand at these work benches to complete plant care tasks. Storing soil in a wheeled trash can is a convenient way to get it to the potting area.

Outdoor raised beds enable individuals in wheelchairs to reach the soil so that they can more actively participate in gardening projects. Ambulatory individuals can also find the raised bed to be helpful as they do not need to squat, kneel, or bend to reach the garden. The edges of the raised beds should be about 2 feet high. These gardens can be constructed at the program site or in community garden plots.

SUGGESTED ROUTINE/FORMAT FOR GROUPS

It can be difficult to monitor several individuals at a time especially during outdoor gardening activities. Small groups are recommended. As in craft and cooking environments some individual projects are available for people to work on when they first come into the plant room and while they are waiting to participate in the primary plant care activities. Individuals might put on gardening gloves and work aprons before

doing their plant work as a part of their consistent routine.

COMMUNICATION AND ENVIRONMENTAL CONTROL

As with the other environments, the horticulture environment lends itself to a variety of activities and choices. Storage areas labeled with pictures are again recommended to facilitate independent selection and replacement of individual tasks, as well as help keep everything organized.

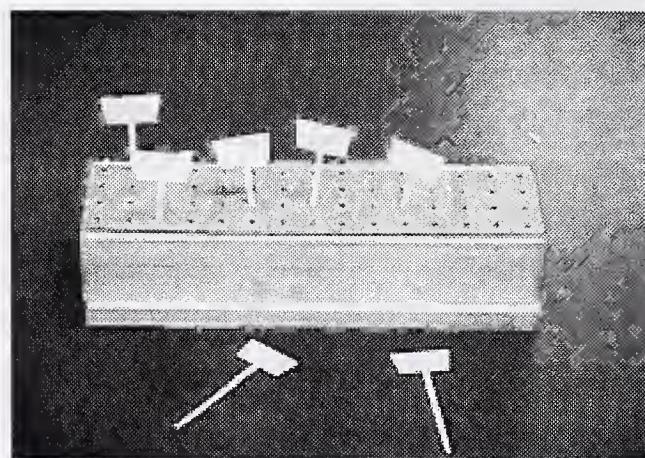
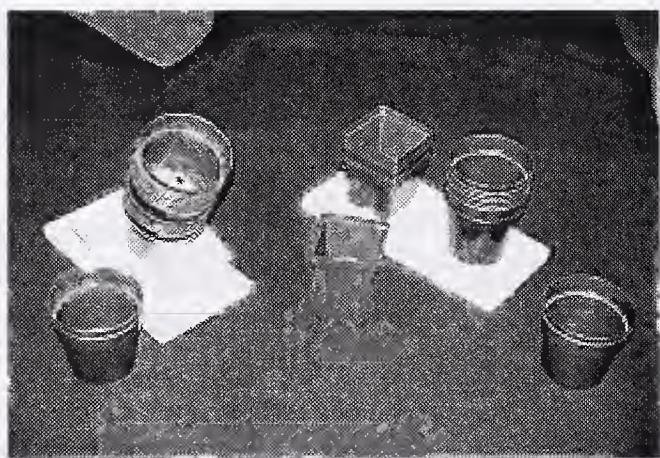
Vocabulary on AAC devices should reflect general plant care needs (e.g. colors, soil, pots, water, digging, etc). AAC users who may not have easy access to their personal tools when working with plants would benefit from pictures or remnants of activity choices on mini boards or dynamic displays.

During plant sales or “Home and Garden” shows, messages programmed into simple voice output devices can gain the attention of potential customers. Don’t forget to bring a camera on community outings to parks, gardens or on day hikes. Photographs of colorful flowers, plants, trees and natural landscapes make outstanding additions to AAC devices and photo memory notebooks.

INDEPENDENT ACTIVITIES

Examples of good individual activities that relate to plant care, from simple to complex, are as follows:

- Stacking plastic flower pots (the base pot can be screwed into a board base).
- Sorting plastic flower pots by shape and stacking them (a square pot and a round pot can be screwed into a board base).
- Arranging durable silk flowers in a plastic pitcher or vase.
- Sorting silk or plastic flowers by color or type and standing them in pitchers or buckets.
- Standing up plastic plant markers in holes in a specially made display box with a pegboard top.
- Hanging wreath frames from a large floor stand.
- Hanging seed packages from a vertical pegboard rack the seeds can be removed, the packets can be mounted on thick vinyl or mat board, and the packets can be protected with contact paper (This task can be used as a sorting activity; duplicates of seed packages are hung on the same post).
- Counting and packaging bulbs.
- Sorting large seeds by type.



SUGGESTED PLANTS

Indoor Plants

<u>Plant</u>	<u>Special Features</u>
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BULBS

Amaryllis	Large, easy to handle bulb. Large, showy blossom.
Paper White Narcissus	Very fragrant.
Tulips and Daffodils	These plants can be forced in pots indoors in the early spring.

OTHER PLANTS

African violets	Soft textured leaves and blossoms. Intensely colored flowers. Root easily from cuttings.
Philodendrons	Foliage plant, easy to grow and care for.
Spider plants	Foliage plant, easy to grow and care for.
Wandering Jews	Foliage plant, easy to grow and care for.
Pepperomia	Interesting textured leaves.
Geraniums	Bright colored flowers, easy to start from cuttings.
Begonias	Attractive flowering and foliage varieties.
Oxalis (shamrocks)	Foliage plant with flowers, easily grown from tubers.

Cactus	Rough textured, different looking plants.
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Outdoor Plants

(Appropriate for Northern Climates)

<u>Plant</u>	<u>Special Features</u>
<u>HERBS/FLOWERS</u>	
Anise Hyssop	Bold, spiky purple flowers that are interesting to touch. Very fragrant.
Chives	Fragrant. Blooms can be dried or used to flavor vinegar.
Lemon Verbena	Grows best in containers. Fragrant. Dried leaves are good in potpourris.
Wormwood (Artemisia)	Hardy gray-green foliage plants. They are easily dried for wreathes and flower arrangements. Southernwood is a hardy, pungent variety.
Borage	A beautiful annual that is easily grown from seeds. Leaves are fuzzy and cucumber flavored.
Pot Marigold	Colorful and easy to grow. Petals can be used in potpourris.
Cornflower	Easily grown from seeds. Flowers are readily dried or pressed.
Purple Cone Flower	A colorful perennial that is good for pressing.
Fennel	A bronze or green colored perennial that is easily grown. Fragrant and soft to touch.
Sunflowers	Best if grown against a wall or fence. Visually and tactiley stimulating. Seeds can be used for craft, cooking, or bird feeding activities.
Lavender	Hidcote variety is readily dried. It has a soothing fragrance.
Lemon Balm	Fragrant, easily grown plant that needs shade.
Assorted Mints	Best grown in containers to prevent overgrowth. Fragrant and nice to touch. Mint can be dried for potpourris or cooking.

Oregano	Fragrant. Leaves can be dried for flavoring foods. Flower heads can be dried for wreathes or arrangements.
Corn Poppies	Hardy, easy to grow, bright colored flowers. The dried seed capsules are good in wreathes and arrangements.
Scented Geraniums	There are over 200 varieties including lemon, rose, chocolate mint, and peppermint scented geranium. Leaves have interesting shapes and textures.
Parsley	Curly parsley is good for tactile exploration.
Roses	Roses are fragrant and colorful. Blossoms can be dried or pressed.
Sage	Pungent and easy to grow. Dried sage can be used in wreathes and arrangements.
Tansy	Aromatic and interesting to touch. Dried fl used in arrangements and wreaths.
Lamb's Ear	Soft, fuzzy leaves are excellent for sensory exploration. They can also be pressed.

VEGETABLES

Tomatoes, Peppers	These plants are fairly easy to grow from seeds or seedlings.
Eggplants, Zucchini, and	
Summer Squash	The vegetables are easy to see and they can be used for cooking: ratatouille, pizzas, pasta sauces, zucchini breads, etc., can be made.

SPECIFIC ACTIVITIES

- Exploring plant material in the "sensory garden".
- Pulling dead leaves off plants.
- Watering plants (indoors and outside).
- Filling pots with stones and soil.
- Planting seeds (in pots or in the garden).
- Repotting plants.
- Fertilizing plants (using a medicine dropper).
- Painting or decoupage flower pots.
- Wrapping colored foil around plants' pots.
- Mixing/bagging potpourri.
- Making herb filled bean bags to be used for sensory exploration and relaxation.

- Cutting flowers, tying bunches with string, and drying them.
- Pressing flowers (picking flowers, pulling petals off, laying them in between cardboard sheets in a flower press, and securing the wing nuts on the press).
- Arranging dried flowers in baskets or pots.
- Making dried flower wreaths.
- Decorating pine cones with paint and glitter.
- Making pine cone bird feeders with peanut butter and bird seed.
- Making center pieces with split pieces of birch logs.
- Making pine cone wreathes.
- Making decorative bottles of herb flavored vinegar.

ADAPTIVE EQUIPMENT

ADAPTATION: SEED TUBES

DESCRIPTION

Many individuals do not have the motor control, or attention to task, to accurately place seeds in the soil at the desired spot. For planting seeds in pots, stick a funnel into the spot in the soil where the seed should go. Have the individual release the seed into the funnel. The same concept can be used outdoors. If the seeds will be planted near the middle of a raised bed some people may not be able to reach to the funnel. Cut a length of PVC tubing and glue the funnel, using PVC cement, into the end.

ADAPTATION: SAND AND SEED MIXES

DESCRIPTION

Tiny seeds can be mixed in with a generous helping of light colored sand. The sand dilutes the concentration of seeds. Now if the individual sprinkles a row of seeds in the garden there are two benefits. First, the seeds will be less densely distributed. Second, the light colored sand contrasting against the dirt provides concrete evidence of what rows have been planted.

BREAK ROOM/GAME CENTER

RATIONALE

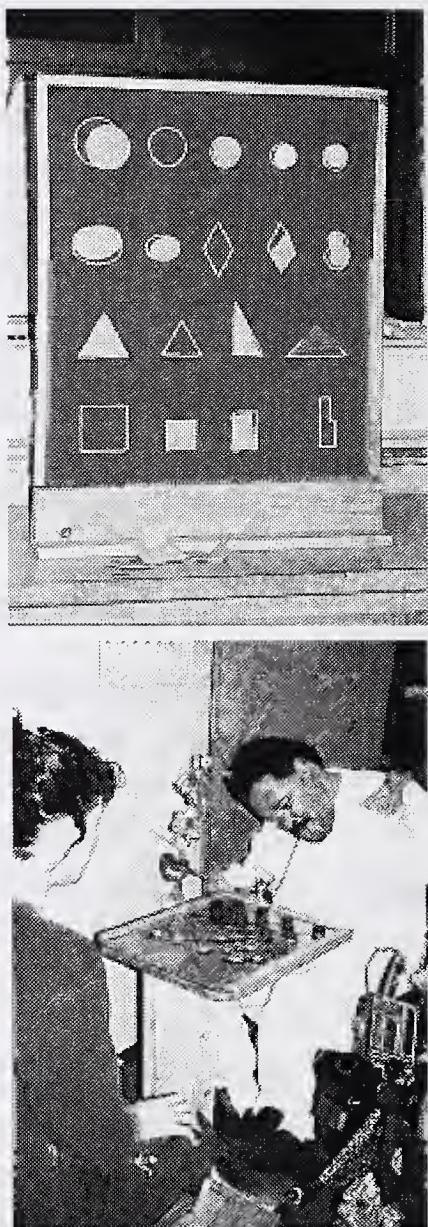
Individuals at the Sensory-Motor level are often very limited in the number of things they enjoy that they can pursue with minimum support. Leisure activities for these people are usually sensory stimulation/exploration and switch activated activities. The sensory

exploration space can make the best break time area for these individuals. The Independent Leisure Skills Survey (see Appendix J) can be useful to help identify the individual's preferences and abilities.

We do not generally recommend the use of pegs, form boards, stacking posts, and other manipulatables that are designed for preschoolers as activities in structured environments for adults. In most cases similar manipulations can be completed with more age appropriate materials. However, many individuals like some of these activities and can complete them with little help. If these materials are to be used at all, the break environment is the place to do so.

Individuals at and above the Concrete Operations level can participate in more structured games groups. Most games demand that rules be followed and turns be taken. One to one correspondence for counting and moving game pieces, color matching, shape matching, spatial skills for understanding direction of game piece movement, money counting abilities, etc., are often required in games. The rules and details of games can be somewhat simplified to match people's cognitive abilities. Many of the individuals in day programs that are capable of understanding and enjoying games tend to have physical limitations. Games can be adapted to minimize physical demands.

Structured group leisure activities can support social interactions and facilitate friendships. Running a slide projector to share vacation slides, looking at photo albums, using pictures to select and plan leisure outings and creating displays to tell stories can provide opportunities for staff to model good socialization skills (i.e. attending to a partner, turn taking, maintaining a topic, etc.).



GENERAL THERAPEUTIC GOALS

- To expand the number and variety of leisure activities that the individual can pursue with minimal supports.
- To improve environmental awareness.
- To promote socialization (turn taking, competing, conversing).
- To improve cognitive skills (color matching, counting, rule following, money counting, picture identification, reading, etc.).
- To improve visual perception skills (direction of game piece movement).

PHYSICAL SPACE

The break room should have a more relaxed, informal feeling to it than other learning environments. The lighting can be less intense. In addition to some tables and chairs, a few couches, stuffed chairs, and/or bean bags should fill the space. Materials in the room should include a TV, several magazines, photo albums, and a variety of preferred activities or games that are neatly stored in plain sight for easy access.

SUGGESTED ROUTINE/FORMAT FOR GROUPS

Break time has very little structure. Break time is a reinforcing, relaxing time when few demands are made on the individual. The people decide whether or not they will actively participate in activities. There should be plenty of stimulating materials available in the area. Possible activity choices are pointed out to the individual. Materials can be left near each person in case they should choose to use them. It is okay for people to close their eyes and retreat from interacting with anyone during "break".

Some more structured story group, leisure skills group, or games group activities may take place in the break room. All participants need to take seats around a central table, follow directions, and take turns as the activity requires.

COMMUNICATION AND ENVIRONMENTAL CONTROL

As mentioned above, game playing and "break" periods offer a great deal of opportunity for interaction and socializing, while promoting initiation and independent choice making. Activity shelves, as always, should be labeled with pictures. Significant effort should be made to ensure that activity materials are returned to their designated space on the shelves, so individuals can always locate preferred items as independently as possible.

Some individuals keep their preferred break activities (e.g. books, puzzles, tape recorders, Walkmans, jewelry, hair brushes, etc.) in their own labeled, plastic storage bins. When it is time for break they get their bin and can independently access a number of items. This provides variety and facilitates choice making while minimizing "travel time" to and from the storage area. This is especially useful if break periods include time for personal care activities, and less staff are "on the floor" to assist. Purchasing small items on community outings, or bringing in items from home, can add to the contents of a "break bin" and create opportunities for novel interactions.

AAC users should have access to their personal devices, and use of them should be incorporated into games whenever possible. Specific game vocabulary should be added to make playing fun. Messages in voice output devices might include comments like "Watch out, he cheats!", "My turn!" and "That was fun, let's play again!"

INDEPENDENT ACTIVITIES

Most leisure activities should be completed with near independence. Examples include the following:

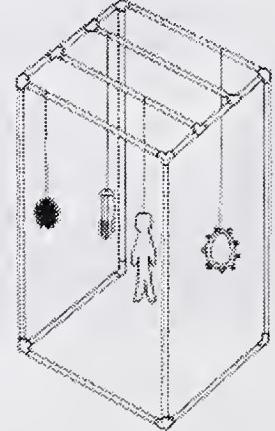
- Lounging on a couch or stuffed chair.
- Turning the pages of a magazine.
- Looking through a photo album (pictures of familiar people engaged in program activities are good).
- Exploring sensory stimulation materials.
- Using switch activated devices.
- Manipulating familiar fine motor items (pegs, puzzles, construction activities, etc.).
- Listening to tapes.
- Watching TV.

DETAILED ACTIVITY DESCRIPTIONS

ACTIVITY: TACTILE ITEMS HANGING FROM PVC FRAMES

DESCRIPTION

A small frame can be clamped to the individual's wheelchair tray or a table top. The larger model pictured is free standing and constructed to fit around a comfortable chair. Items can be attached to the frame with long strips of Velcro, exertubing, or wide sewing elastic. Tactile items can include Koosh balls, textured rings, strips of fur, rings with bells attached, or just about anything that you think the people feeling the items will like. Durable balloons filled with flour, syrup, cornstarch and water, sugar, beans, rice, etc., are very interesting to touch and can be tied on as well.



DESIGN/CONSTRUCTION

For the small frame you will need a small amount of PVC tubing, 2 corner joints, 2 caps, a piece of wood for the base, some PVC glue, and 2 screws, to secure the caps to the base.

1. Decide on the desired height and cut 2 lengths of PVC (use a saw).
2. Decide on the desired width and cut one length.
3. Sand the wooden base to make sure there are no splinters (we like to coat the wood with 2 or 3 layers of polyurethane so that it can be readily wiped clean).
4. Glue the corner joints onto the sides and top after carefully reading the directions on the side of the PVC cement container (always be careful when using this adhesive).
5. Drill a hole through each cap.

6. Place the caps the right distance apart on the base so that they meet the ends of the side tubes. Screw each cap into the wood.
7. Hang your favorite tactile items. A little sticky backed Velcro on the bar can keep items hung from Velcro straps from slipping down off the top bar.

The free standing frame is more complicated to build, but the result is that hanging items are closer to and almost surround the individual. You will need 4 to 5 ten foot lengths of PVC, 6 elbow joints with side outlets, 4 T-joints, 2 elbow joints and PVC cement.

1. Decide on the desired height and cut four lengths of the PVC with a hack saw . The frame should be well above the height of the seated individual so that hanging items can dangle at head, shoulder and chest heights.
2. Measure the width of the chair that will be used with the frame. The frame needs to be a bit wider than this so that it can fit around the chair. Cut five pieces.
3. Decide on the depth of the frame. Cut two pieces for the bottom. The top two pieces will be more complicated. Three short lengths connected by the T-shaped joints will need to make up the total depth.
4. Glue the two side rectangles together using three elbow joints with side outlets and one regular elbow joint (see diagram). Make sure all the open elbow spaces and T-joint spaces are facing the same direction.
5. Glue in all the width pieces.
6. Hang items from all four bars that extend across the frame. Keep straps at different lengths to space out the stimulating materials.

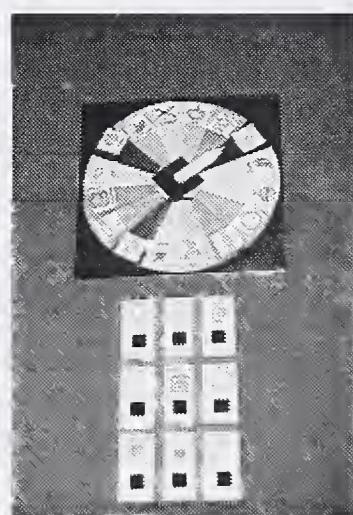
THERAPEUTIC ANALYSIS

These frames are best for individuals who cognitively function within the early levels of the Sensory-Motor stage and rarely initiate exploration of their surroundings. The hanging items are close to their upper extremities increasing the likelihood of chance encounters. Hanging frames are not built to be highly durable; they are better for people who lightly and briefly bat at objects rather than those who roughly grab and tear at materials.

ACTIVITY: “WHEEL OF FORTUNE” BASED SPIN AND MATCH GAME

DESCRIPTION

Every player has their own card with several pictures of items that are familiar in their day program surroundings on it. Pictures from the Boardmaker program can be used. The first player bats a spinner. As the arrow slows down it points to a picture card that has been Velcroed around the edge of the spinning wheel. The individual pulls that card off to see if it matches any of the pictures on his/her card. If it does, the picture from the “wheel of



fortune" is stuck beside the match. If there is no match, the card is put back onto the edge of the wheel. Each player spins, looks for a match, and Velcros until someone wins by filling their card with pictures.

DESIGN/CONSTRUCTION

Use 1/4" plywood as the base for the spin board. The board can be covered with black paper for a background, and a circle with pie shaped strips of bright colored papers can be glued on top. Contact paper can cover the front of the board and wrap around its edges. A lazy Susan mechanism is then screwed onto the center of the board. An arrow piece can be made out of mat board with a square base the same size as the top of the spinner mechanism. The arrow piece can be contacted and Velcroed onto the hardware. Pictures can be mounted on mat board or vinyl and protected with contact paper. Each movable picture needs a square of sticky backed hook Velcro behind it. Use sticky backed squares of loop Velcro evenly spaced around the wheel to set up the game's pictures. You will also need to make several bingo type cards with duplicate pictures on them and spaces left for Velcroing on the matching pictures. Make these matching cards on mat board or vinyl. You may want to mark squares on the board to call attention to the missing spots for the matching pictures. Cover the cards with contact paper and add the loop Velcro squares.

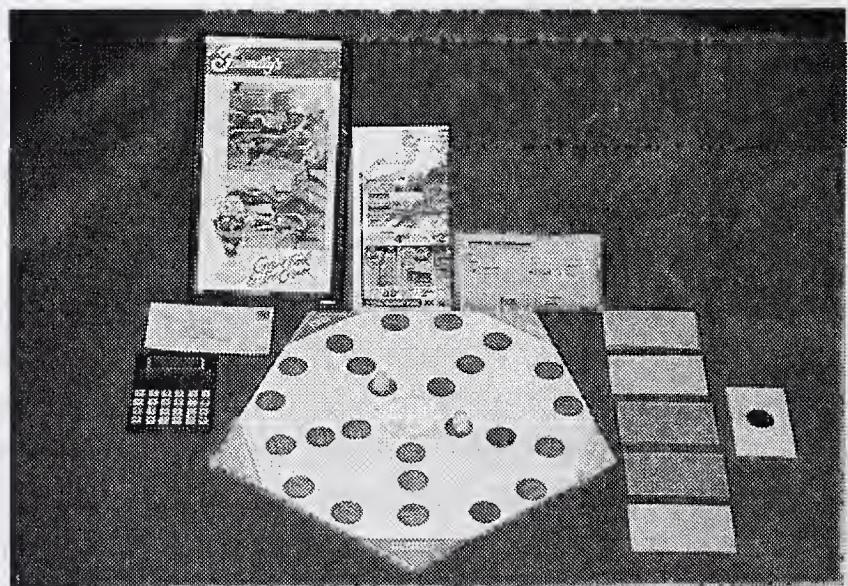
THEATRICAL ANALYSIS

about a spinner seems to be inherently motivating. The game gives individuals the ability to use pictures for communication purposes exposure to them within a pleasurable activity. The ability to match pictures can be helpful in developing work-related matching and packaging skills.

ACTIVITY: COMMUNITY SKILLS GAMES

DESCRIPTION

Several versions of community skills games can be developed to match the skill levels of the players. A simplified "Trivial Pursuit" model works well. A board is designed with different colored spaces on it. Each color represents a category. Categories in community skills games can include "The Telephone Book", "The Bank", "The Grocery Store", "The Post Office", "The Restaurant", "The Drug Store", "The Movies", "The Calendar", "Hygiene", "Relationships", "First Aid",



etc. Materials for the game can include, a phone book, photocopied or real money, withdrawal and deposit slips, a calculator, coupons for products, floor plans of stores, a pricing gun, postage stamps, menus, copies of prescriptions, movie listings from the paper, and a calendar in addition to the expected game board, markers, dice and question cards. The players shake the dice, move their pieces around the board, and answer category questions according to the colors on which they land. The person who first correctly answers a question from all the categories is the winner.

DESIGN/CONSTRUCTION

The game board can be made out of mat board or even good quality paper glued onto a thin piece of plywood. Game markers can be simply made by cutting short pieces of dowel, sanding them and painting them. Large die are easier to see and shake than small ones. Remember to cover the game board, question cards and as many of the other reusable paper materials from your game with contact paper to protect them from wear and tear.

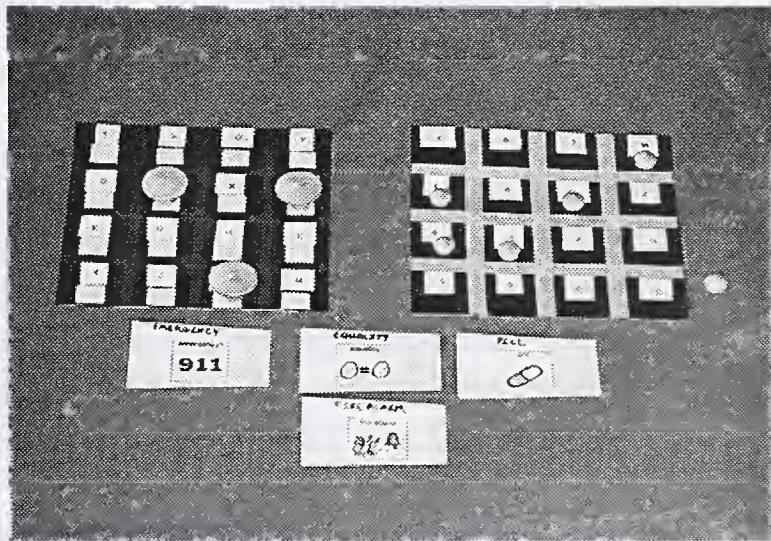
THERAPEUTIC ANALYSIS

This game can be a fun way to address many functional skills that will help individuals to access goods and services within their communities. As with other games, direction following, counting, and turn taking are practiced.

ACTIVITY: DEMON BINGO

DESCRIPTION

Each player has a “Bingo” style card illustrated with rows of letters and numbers. Some of the cards should be adapted with small Velcro strips at each space so people with fine motor difficulties can use small wooden pegs or checkers to mark the space as their letters and numbers are called. The Bingo master or DEMON holds a set of cards with an assortment of pictures and words (picture communication symbols come in handy here). One player selects a card. The DEMON displays the choice to the group and then uses the target item to quiz the players. Questions about meaning, spelling and use of the word are fair game. Finally, the DEMON surprises the players with the letter or number that (somehow) corresponds with the item selected. Players then place their markers on their cards. Play continues until someone gets “BINGO!”



DESIGN/CONSTRUCTION

Use 8" squares of stiff cardboard or vinyl for the bingo cards. Using plastic tape of various colors, create rows and columns so you can space 16 random letters and numbers evenly in rows on each card. Cover the cards with clear contact paper. To several of the cards add a small strip of sticky back loop Velcro to the base of each square. Collect an assortment of pegs and/or checkers to use as markers for the squares. Affix a dot of sticky back hook Velcro to a bunch of them. To make the deck of target items, select 30 to 40 line drawings or photographs (2" size) that are representative of vocabulary useful to your group. Mount them on 3" X 5" index cards, and label them with a black marker. Cover them with contact paper, too.

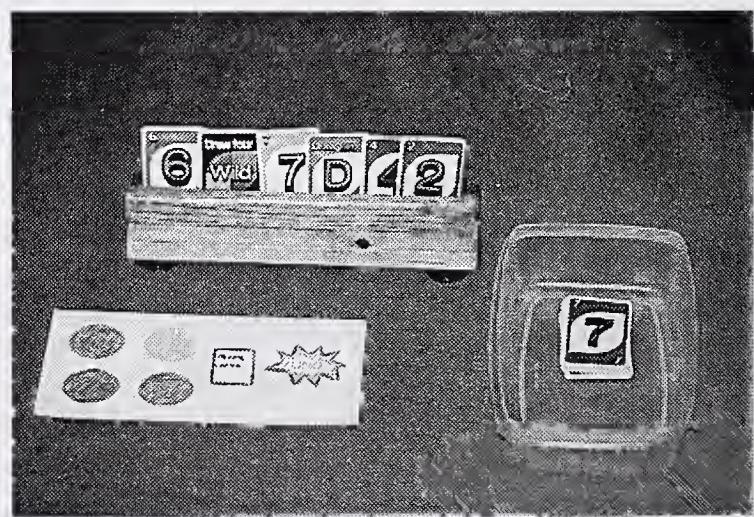
THERAPEUTIC ANALYSIS

This game is a great vehicle for language learning, literacy, fine motor and socialization skills. Participants work on turn taking and attending to others while gaining exposure to augmentative communication symbols used on their own, or their cohorts, communication devices. Various aspects of the target items can be explored by the DEMON to reflect the specific needs and goals of individual players. The fact that it's a game helps with motivation and interest. Letter and number recognition is a central focus. Scanning and matching skills are practiced. Fine motor skills are used when grasping, sticking and unsticking the pegs and when picking cards. Often, the participants begin to try and anticipate how the DEMON will translate a target item into a match, and they will begin to use some higher level reasoning skills. Generally there is laughter, and an assortment of insults directed at the DEMON, so a good time is had by all!

ACTIVITY: UNO

DESCRIPTION

Players lay down one card each turn that is the same color or same number as the card laid down by the previous player. Wild cards enable players to change colors. Other cards played force the next player to skip a turn or pick extra cards. Players need to yell out "UNO" if they have only one card left to play; if they forget to say "UNO" they need to pick up more cards. The objective is to be the first player out of cards.



DESIGN/CONSTRUCTION OF MODIFICATIONS

Card holders are easily made by gluing two strips of wood (about a foot long and 1 1/2" wide), about 1/8" apart along their edges, onto a base piece of wood (the same length

as the strips). Small suction cups can be screwed into the base to keep the card holder from slipping. Mini-communication boards can be made for the game. Include the four colors used in the game, "I need more cards.", and UNO! symbols.

THERAPEUTIC ANALYSIS

The game requires color and number recognition and matching. No reading or math abilities are required. Other than remembering the direction of play around the circle of participants, no spatial skills are required. Card holders are useful for most adults with developmental disabilities. They stabilize the cards for those individuals with significant motor coordination deficits. They also spread out and display the cards in a clear way for individuals without obvious physical limitations (most adults with developmental disabilities do not have the visual perception, motor planning and/ or dexterity to evenly fan the cards and pinch them together at their bases with one hand).

ACTIVITY: YAHTZEE

DESCRIPTION

Yahtzee is a dice game in which players have three rolls each turn to try to obtain designated combinations with their five dice. Players can use a small cup or their cupped palms to shake the dice. Sums are added and results are recorded on score sheets.

DESIGN/CONSTRUCTION OF MODIFICATIONS

The game can be simplified; scores for combinations can be reduced to single digits, the number of combinations can be reduced, and score sheets can be made on full 8 1/2" X 11" sheets of paper with large pictorial representations of the needed sets of dice and large spaces for entering numbers (see sample adapted game sheet; Appendix K). Calculators can be used by those individuals without basic math skills for adding scores. Alternative dice shakers can be used; plastic mugs with handles can be managed by many individuals with cerebral palsy, and a mouth stick with a coffee scoop taped onto the end can make a good shaker for an individual with no hand use. Large dice can make counting the dots easier.

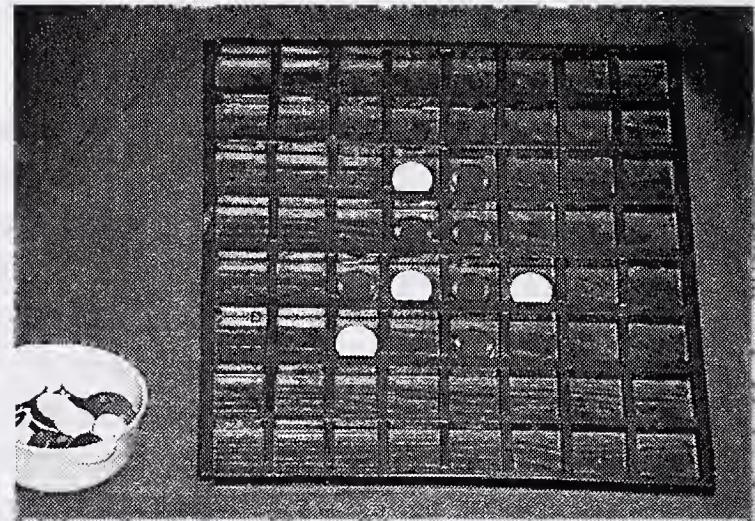
THERAPEUTIC ANALYSIS

The game is easier when individuals can glance at each die and immediately recognize the group of dots as a number without having to count them. Some addition is needed, but the calculator can make that process simpler. Writing is required; the larger spaces in the adapted score sheets allow for sloppier execution. Cupping the hands for dice shaking is a good way to address the development of the arches in the palms, but many adults simply do not have the hand function or motor planning ability to do and require the adapted shakers.

ACTIVITY: OTHELLO

DESCRIPTION

Othello is a game played on a board with 64 squares on it, similar to a checkerboard. The game pieces are discs that are black on one side and white when they are flipped over. Each turn a player places a new game piece on the board so as to surround a line of his/her opponent's pieces with their own color. The pieces trapped in the middle of the row can then be flipped over so that they match the attacking player's color. Piece placing and flipping trapped pieces continues until the board is filled with pieces that are predominately one color. That player is the winner.



DESIGN/CONSTRUCTION

The game can be adapted for individuals with incoordination. Extraneous movements can ruin the arrangement of pieces on a conventional board. Larger playing boards can be made with wood strips outlining each playing square: once a piece is placed it cannot be inadvertently knocked out of position. The three dimensional grid also allows for passing the board from one player to another so that each person can better reach desired spaces. The game pieces can be made by gluing two poker chips together with super glue.

THERAPEUTIC ANALYSIS

This game demands intact visual perception and some abstract thinking. Modifications can not make the game easier; they can only control for limited motor accuracy.

ACTIVITY: STORY TELLING

DESCRIPTION

Story telling is a great activity for promoting interaction, reinforcing picture communication symbol use and increasing social skills. It can be adapted successfully for people who can discriminate pictures, even if they are non-speaking. Prepare for the group by selecting short, familiar "stories" from the daily experience of the participants, such as "Having a Party", "Getting Ready for Lunch", or "Fire Drill". Develop a script for the story, with a "fill in the blank" format, so the details of the story vary a bit at every telling.

During the group interaction, use large, colorful pictures on a Veltex board to present options to the participants, letting everyone have a turn to complete a line of the script. Listen and watch as the story unfolds! Once it is “written”, the facilitator should review the newest version of the tale, using the pictures as it is “read” aloud.

DESIGN/CONSTRUCTION

The story board should be a large (18" x 22") piece of plywood covered with Veltex. A dark color works best, since painting horizontal lines running down the board will facilitate left to right sequencing of pictures. We have used 3" Boardmaker pictures mounted on vinyl or poster board and covered with clear contact paper. A dot of hook Velcro on the back of each picture will secure it to the board.



THERAPEUTIC ANALYSIS

This activity demands fairly good attending and some abstract thinking. Group participants can use any communication mode to select their choice. Visually impaired people can have options auditorily presented.

Chapter Six

Beyond the Program Environments: Community, Family, and Self Advocacy

COMMUNITY

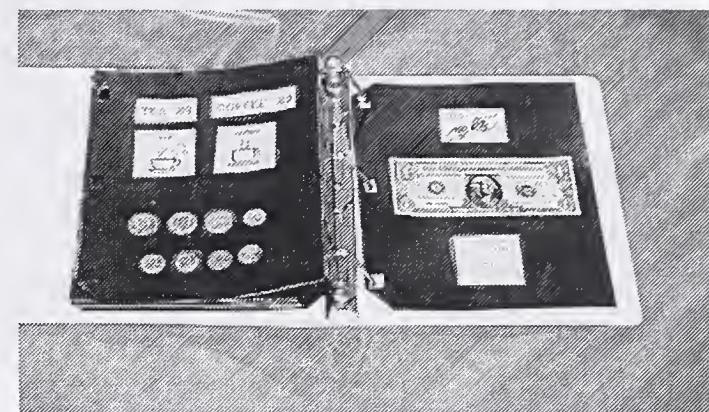
The “community” offers many potentially rich learning environments to the individual with developmental disabilities. Drug stores, convenience stores, movie theaters, restaurants, libraries, parks, museums, banks, work sites, health clubs, churches and bowling alleys are places in which people we have worked with have been successfully integrated. Community sites, however, are not as structured as environments in a day program. Appropriate seating is not always available, independent projects to decrease waiting time are not in place, adaptive equipment is not at hand, and familiar routines are not as easily adhered to. Individuals who are dependent on structure and predictability can have a difficult time transitioning into community activities.

Therapeutic community programming is most effective when the following issues have been considered:

- Individuals need more support in the community than they will at the program site. A 1:1 or 1:2 staff/program participant ratio is often needed, especially for individuals with multiple needs.
- Therapists and/or other program staff must research community options to determine whether or not participants will be able to effectively use them. We look at accessibility, noise levels, crowdedness, waiting times, travel time, amount of walking/standing endurance required, etc., within the setting, etc. Finding work and volunteer options in the community is a challenge. We have developed a brochure which describes the abilities and support needs of the individuals that we are trying to integrate, highlighting the skills that people have (delivery, coin rolling, packaging, clerical abilities, etc.). We start by proposing to place a volunteer worker for a few hours a week, with ongoing supervision from a program staff person.
- Therapists, and/or other program staff, should help to establish relationships with key people at community locations that will be visited on a regular basis. Many people in the community have had limited interaction with people with developmental disabilities. The experience is more positive for all involved when understanding is increased and positive interactions have been modeled.

This is especially important when individuals have limited communication skills or use AAC devices. We have worked closely with coordinators of community gardens, ceramics teachers, local librarians, managers of drug stores, local churches, and clerks at local convenience stores.

- Needed adaptations should be brought to the community sites. The person who needs a mug with a handle, cover, and long straw to drink without spilling should bring that to the restaurant. The person who needs a wheelchair tray to carry items should bring it when volunteering at the recycling center. The person who uses an AAC device should have vocabulary that promotes interactions with community partners, and be able to independently purchase a theater ticket, get assistance with opening a wallet and greet the clerk. An individual that can not add coin values for small purchases can bring a notebook of coin matching jigs to the convenience store. They match coins to the photocopied coins on the jig for the desired item and then pay the cashier.
- Individuals that depend on the structure of consistent routines should have short, predictable community experiences. Positive experiences in familiar community environments are preferable to a confusing variety of outings where outcomes and expectations are unclear.
- Specific therapeutic needs can be met at community sites. Range of motion and strength can be improved at a fitness center or local pool. Accuracy in wheelchair mobility can be refined, and endurance for ambulation can be increased as people explore a mall or museum. Self care skills are expanded as individuals use wallets, purchase items, participate in banking, etc. There are natural opportunities to form relationships, and interact with new partners.
- Activities at the day program and community experiences should be as connected as possible. Photographs taken on outings can be made into a scrapbook style conversation book that is used at the program. A trip to the grocery store to buy ingredients should be followed by a cooking group. Pine cones collected on a walk can be used in a craft group.



FAMILY

The home is another rich learning environment for the person with developmental disabilities. Individuals that live in a group home, or staffed apartment, may receive therapeutic services from a team that provides consultation within those settings. Therapists from day programs should collaborate as much as possible with residential

consultants to maintain consistency in treatment goals.

Most individuals that live with their families do not have home-based therapy services. The relationship between consulting day program therapists and families is often indirect. It is usually the case manager that has the most direct contact with families. This does not mean that therapeutic interventions cannot be integrated into home environments. The case manager can discuss therapeutic issues with the family, home visits with therapists can be arranged, therapists can meet with family members at the program site, or therapists and family members can use the phone or write notes to directly communicate. Leisure activities and self care routines that are successfully used in the day environment can be replicated in the home. Information about people and preferred activities in the home setting should be included in AAC devices.

Most human services agencies offer family support services. For example, at GWARC, separate monthly support meetings are held for the parents of children, adolescents, and adults. Educational opportunities are offered based on need and interest. Supports from agency staff around housing issues, respite, funding sources, etc., are provided as needed. Family support staff also refer families to recommended therapists or agencies should they want more extensive home-based services.

SELF ADVOCACY

We have observed that fairly strong communication and/or literacy skills are needed in order to participate fully in life planning, goal setting and opinion survey activities. Most individuals in the programs we serve must rely on others to provide them with information about their supports, services and rights. Often, their wishes and needs are interpreted by others as well.

In Massachusetts over the past several years, a “person centered” philosophy has been the rule during individual support planning. To help facilitate this, many human service agencies have approached us with requests to adapt or engineer systems that will help people be better “self advocates”. We have simplified text and added pictures to “satisfaction surveys” and adapted a Human Rights Manual (see Appendix L) for GWARC.

Here are a few other examples of projects we've had success with:

ACTIVITY: THE CALENDAR

DESCRIPTION

A large dynamic calendar display with colorful pictures and photographs is used to facilitate planning activities, scheduling events and relating information. The group or individual is seated at a table, accessible to the display. The meeting agenda and topics

for discussion (e.g. weekly appointments, visits, errands schedule, chores schedule, holiday party planning, etc.) are proposed. Pictures are used to help select possible options related to each topic. If people have trouble providing input independently, assistance is provided by modeling with the pictures (for example, during holiday party preparation, talk about chores and activities that need to be done before the party, selecting the pictures related to that holiday and those tasks. Plan when the tasks will be done, and who will assist, etc.). After the meeting, collect the unused pictures and store them in a central location. Throughout the week, encourage people to review the schedule. While standing in front of the display, ask questions about the topics and help point out pictures to remind them about scheduled activities.



DESIGN/CONSTRUCTION

Cut a large board out of plywood or other light, durable material (we have used boards that range from 22" X 30" to 6' x 8' depending on the needs and wishes of the program). Cover the board with Veltex. Paint or draw lines with a wide marker to create a calendar grid. Attach the board to a wall if desired, making sure it is in an accessible place for using and viewing. Gather an assortment of pictures and photographs reflecting topics related to scheduling time. Include holidays, weather, special events, vacations, routine activities, people, etc. Make labels for the days of the week, months of the year and numbers. Mount these items on cardboard or vinyl, cover with contact paper and affix with a square of hook Velcro. Have some baggies or plastic boxes available to store extra pictures.

ACTIVITY: VOCATIONAL EXPERIENCES SCRAPBOOK

DESCRIPTION

A large notebook with colorful pictures, photographs and remnants is used to provide an independent way to share relevant information at individual planning meetings. In this case, a worker is asked to report about his prior vocational experiences. To facilitate this, they participate in the construction of a photo album throughout the year (having a Polaroid camera is helpful). Captions should be added explaining job experiences. Remnants from special features at each site (e.g. restaurant menus, ticket stubs, break/leisure events) should be included. At years end, the worker can bring the scrapbook to a planning meeting. Details about vocational experiences throughout the year can then be shared. Information about preferences and directions for future job opportunities can be generated.

ACTIVITY: COMMUNICATION CHALLENGE BOARD

DESCRIPTION

A large dynamic display with colorful pictures and/or words is used to provide access to information related to communication goals. Individuals are encouraged to use the board to plan and execute steps toward achieving desired outcomes. Specific information about the plan (i.e. when activities will occur, where the "challenge" will take place and who will help out) is posted on the board for each individual who wants to participate. The display, usually made of plywood and covered with Veltex, is mounted in a place easy for all to view, with lines painted to form a grid. The labels "Who?", "When?", "Where?" and "How?" are mounted along the top horizontal row, with participant names along the left vertical row. If people have trouble providing input independently, assistance is provided by modeling with pictures and simple verbal instructions. We periodically encourage people to review their challenge, and help modify the plan as needed. When challenges are met, there is much rejoicing!



CONCLUSION

We hope you have enjoyed learning of some of our ideas for creating more stimulating and effective environments for adults with developmental disabilities. This nine month project: the process of organizing our information, collaborating on the written material, taking the photographs, and working with other professionals to produce the final product, was a deeply satisfying experience for us, both personally and professionally. We are grateful for the opportunity to share our work with you in this way.

This book was not designed to provide you with a cookie cutter approach to developing effective programs. Instead, the intent was to offer examples that might stimulate your own creative ideas and solutions. Your ingenuity, dedication and enthusiasm will ultimately determine the effectiveness of your programs; if this book helps to motivate you in any of those areas, then we will have accomplished our goal.

APPENDIX A

WORK SPACE AND MATERIALS NEEDS

A quiet, carpeted office space where evaluation and treatment of people can occur might be the first image of an appropriate “office” for therapists. When treatment is integrated into the whole program, however, there is rarely a need to pull workers from their routine activity environments. Since the biggest portion of our time is spent constructing activities and adaptive equipment we need the space and materials to do so. We need to be able to make some noise and make a mess. We have often had to work with minuscule budgets, no designated therapy space, or “office” space that previously functioned as a shower stall in a smelly locker room! Here, however, we list important priorities for space, tools, and supplies that will help others to replicate our consultation model:

SPACE:

- The space should be segregated from activity areas used by adults with developmental disabilities so that they are not distracted by noise or endangered by possible contact with tools or toxic materials.
- Carpeting, unless it is already old and dirty, is not recommended.
- The space should be well lit and well ventilated.
- A sturdy table with a fairly smooth surface is more useful to us than a desk.
- Storage shelves and a cabinet (where power tools and toxic materials can be locked) are important.

TOOLS: NOTE: Only use tools with which you feel completely safe and confident. Always use all safety precautions described in the instruction manuals. Keep tools safely locked away when you are not there to monitor their use.

Specific suggestions are as follows:

Hand saw	Exacto knife
Jig saw	Allen wrenches
Band saw	Pliers
Power drill and bits	Hole punches
Screw drivers	Sewing machine
Hammer	Awl
Good, sharp scissors	Paint brushes of all sizes
Heat gun	Clamps
Needles	Ruler

SUPPLIES: The supplies you need will depend on the projects that you take on (see the “Design Construction” sections in the text for specific recommendations).

APPENDIX B
GWARC
Assessment Summary:
COMMUNICATION

Name _____

Examiner _____

DOB _____

Date _____

Legend:

Occurrence	+
Occurrence with prompt	+P
Non occurrence	-
Not applicable	NA

Naturally Occurring Contexts	Eliciting Contexts
---------------------------------	-----------------------

**COMMUNICATIVE
FUNCTIONS**

Response	Initiation
----------	------------

Expression of Needs
and Wants

Indication of interrupted activity	_____	_____	_____
Acceptance	_____	_____	_____
Protest/Rejection	_____	_____	_____
Communication of Choices	_____	_____	_____
Request for Assistance	_____	_____	_____
Request for object/action	_____	_____	_____
-within immediate environment	_____	_____	_____
-outside immediate environment	_____	_____	_____

Social Interaction

Attention to partner	_____	_____	_____
Turn taking	_____	_____	_____
Greeting/Closing	_____	_____	_____
Request for attention	_____	_____	_____
Comment on person/object	_____	_____	_____
-within immediate environment	_____	_____	_____
-outside immediate environment	_____	_____	_____

After Light/Parnes 1988

GWARC
Assessment Summary:
COMMUNICATION

MODES OF COMMUNICATION	Naturally Occurring Contexts		Eliciting Contexts	
	<u>Alone</u>	<u>With vocalization/speech</u>	<u>Alone</u>	<u>With vocalization/speech</u>
Eye gaze	—	—	—	—
Vocalization	—		—	
Speech	—		—	
Non ritualized gestures	—	—	—	—
Pointing	—	—	—	—
Conventional gesture and sign language	—	—	—	—
Objects	—	—	—	—
Mini objects/remnants	—	—	—	—
Photographs	—	—	—	—
Line drawings	—	—	—	—

After Light/Parnes 1988
GWARC

Assessment Summary: COMMUNICATION

- 1) Does the person demonstrate understanding of requests and questions? Please describe.
- 2) What modes of communication/augmentative communication systems have been encouraged with this person? Please describe the person's current use of these systems.
- 3) Are there things that the person wants to communicate but cannot? Please describe.

CONSULTANT RECOMMENDATIONS:

After Light/Parnes 1988

APPENDIX C
GWARC
OCCUPATIONAL THERAPY EVALUATION

Name:

Date:

<u>Skill</u>	<u>Functional</u>	<u>Inconsistent</u>	<u>Impaired</u>	<u>Comments</u>
I. SENSORY-MOTOR STATUS:				
1. Vision				
2. Hearing				
3. Muscle Tone				
4. Range of motion				
5. Proximal stability				
6. Strength				
7. Posture				
8. Balance				
9. General sensory processing/ defensiveness				
10. Integration of self stimulatory behaviors				
11. Tactile system function				
12. Vestibular system function				
13. Visual localization and tracking				
14. Eye-hand coordination				
15. Bilateral motor coordination				
16. Midline crossing				
15. Consistent hand preference				
17. Left/right organization				
18. Motor Planning				

II. FINE MOTOR SKILLS

A. PREHENSION PATTERNS (Check Descriptions that Apply)

1. Approach

- a. Inexact, trial and error reach
- b. Use of raking action
- c. Exaggerated finger extension upon approach
- d. Direct approach

2. Grasps (check those used)

- a. Grasp reflex elicited
- b. Palmer grasp
- c. Radial palmer grasp
- d. Radial Digital Grasp
- e. Lateral Pinch
- f. Pad to pad pincer grasp
- g. Tip to tip pincer grasp
- h. Static tripod grasp
- i. Dynamic tripod grasp
- j. Other (describe)

3. Release

- a. Random, inaccurate release
- b. Release into large openings (placing in bins, cans, etc.)
- c. Accurate release into small openings (slots or holes in covers)
- d. Accurate release into small openings in various planes
- e. Accurate enough release for placing small pegs in boards

B. OTHER ASPECTS OF HAND FUNCTION

<u>Skill</u>	<u>Functional</u>	<u>Inconsistent</u>	<u>Impaired</u>	<u>Comments</u>
1. Forearm supination				
2. Wrist stabilization in extension				
3. Development of arches in the hand				
4. Separation of function of the sides of the hand				
5. Thumb opposition				

<u>Skill</u>	<u>Functional</u>	<u>Inconsistent</u>	<u>Impaired</u>	<u>Comments</u>
6. Web space				
7. Object Rotation				
8. Refined dexterity				
9. Pinch and grasp strength				
10. Delicate touch				
11. Translation				
12. Tool use				
a. Tongs				
b. Tweezers				
c. Scissors				
d. Screwdriver				
e. Hammer				
f. Needle and thread				

III. VISUAL PERCEPTION

1. Basic orientation of objects for insertion, stacking and packaging
2. Orientation of objects for simple assembly
3. Orientation of objects for complex assembly
4. Spatial orientation (for 2 dimensional design copying)
5. Shape/letter matching

IV. COGNITIVE SKILLS

A. Sensory-Motor Stage

1. Object permanence
2. Cause and effect
3. Means for attaining objects (using a simple tool)

<u>Skill</u>	<u>Functional</u>	<u>Inconsistent</u>	<u>Impaired</u>	<u>Comments</u>
4. Simple actions with objects: Mouthing Banging Shaking Ripping				
5. Construction of objects: Placing "in" Stacking				
6. Attention to task				
7. Motivation				
B. Concrete Operations Stage				
8. One to one correspondence (concrete counting) a. Use of 2 dimensional counting jigs b. Use of 3 dimensional counting jigs				
9. Categorization (sorting) a. Dissimilar items b. Similar items c. Color d. Shape e. Size f. Classification by more than one property at a time				
10. Matching objects to pictures a. Use of set matching jigs				
11. Seriation (organization by increasing size)				
12. Sequencing a. Following environmental routine b. Following steps of tasks				

<u>Skill</u>	<u>Functional</u>	<u>Inconsistent</u>	<u>Impaired</u>	<u>Comments</u>
--------------	-------------------	---------------------	-----------------	-----------------

c. Left to right
progressions

13. Orientation

- a. Person
- b. Place
- c. Time

14. Basic Academic Skills

- a. Name recognition
- b. Name writing
- c. Functional sight words
- d. Basic reading
- e. Coin sorting
- f. Coin values
- g. Addition and subtraction especially for money
- h. Time telling (digital)
- i. Time telling (traditional)

V. SELF CARE: (See general assessment)

Comments:

VI. ADAPTIVE EQUIPMENT NEEDS:

VII. RECOMMENDATIONS:

APPENDIX D

Consultation Record

Name:

Date:

Therapist:

Observations/Current Status:

Recommendations:

APPENDIX E

CONSULTANT SIGN-UP SHEET

THERAPIST:

DATE	TIME	PERSON/PROJECT	STAFF	FOLLOW UP
-------------	-------------	-----------------------	--------------	------------------

APPENDIX F

ORIENTATION HANDOUT

GWARC

SPEECH LANGUAGE PATHOLOGY SERVICES

ROLE: A speech language pathologist working in a day habilitation program should really be thought of as an augmentative communication (AAC) consultant. This is true because, often people with developmental disabilities have significant communication impairments. A person's speech may be limited or may not have developed at all. Generally, AAC approaches are used to expand on what communication skills a person already has. These include using: gestures, body movements, facial expressions, manual sign, photographs, pictures, written words, etc.

At GWARC, the speech pathologist (SLP) works closely with each case manager, and with input from the entire TEAM, evaluates the communication skills and needs of every participant. This information is applied to a developmental model, and functional goals are written if appropriate. Methods are devised for addressing these goals across environments. The SLP will model the program, provide direct treatment if needed, and monitor and modify programs as required.

PHILOSOPHY: All therapeutic programs are written and designed to occur within functional environments. Goals are based on real needs, and are addressed as naturally as possible. Personal choice, control and independence are stressed. The process of addressing each goal is as important as whether or not the objective criterion is achieved.

A multi-modal style is used by both staff and program participants. This means that every way, or mode, that people use to communicate is modeled, encouraged and reinforced. Staff will be trained by the SLP in individual programs, as well as in this multi-modal approach to interacting with others. Modeling, at all times, is a key feature of this style.

SCHEDULING TIME WITH THE SLP: Make use of the clipboard on the consultant's table to sign up for times to meet with the SLP. As a rule of thumb, follow the quarterly schedule for the people on your caseload. Sign up even if the program is going well! It is always helpful to touch base, so sign up as often as needed. Feel free to request: a program observation ,a repair/programming of a communication device, data review or an assessment update. No question is insignificant.

APPENDIX G

The Fernald Center Augmentative Communication Program

Instructions for Constructing a Communication Notebook

(3/97)

(For individuals who are ambulatory or who use partner assisted scanning)

Contributors: Ellen Kravitz, Kathleen Cassidy,
Barbara McLaughlin, Marie Reggio

MATERIALS

- A 3-ring binder with a soft flexible plastic cover (for individuals who are ambulatory) or a hard cover (for individuals who use partner assisted scanning). Size: 9 1/2" x 11 1/2"; 1 1/2" binding (or 1" capacity).
- Paper (sheets of slightly heavy or stiff paper)

Suggested Paper: Strathmore Artist Text Paper

- Toro Black #107-110 (Use this exact # to get the appropriate thickness)
 - Navarre Blue #107-105 (Use this if the individual has visual impairments)
- Cost: Approximately \$26.00 for a package of 25 (25 1/2" x 19 1/2") sheets.

- 2 Clear Plastic Page Protectors
- Double-sided Scotch Tape
- Cloth Tape, or Strapping Tape (Beige colored tape with fibers in it often used for sealing packages. Do not use electrical tape or masking tape.)
- Clear Contact Paper and/or Laminating Paper
- Kitchen Sponge or Vinyl Foam Weatherstripping (This helps to separate each page if the individual has difficulty turning pages.)

PROCEDURE

CREATE A MOCK-UP OF THE COMMUNICATION NOTEBOOK: After selecting vocabulary for a wide variety of settings, make a mock-up of the communication notebook. Use 3-hole punched notebook paper. Write in the exact vocabulary that will go on each page (make sure the picture size and spacing between pictures required by the users has been determined beforehand). Be sure to leave blank areas or pages for vocabulary that may need to be added in the future. Also, leave spaces for sponges if they are needed to make the pages easier to turn.

Suggested order of vocabulary categories and tabs (The first page of each category should include a tab, except for the conversation pages. There should be a total of 10 tabs.):

- Conversation Page(s) (scrapbook/photo-album items with captions that tell about an individual's life or recent events, etc.)
 1. Time
 2. People/Pets (include TV/movie characters and movies/videos/books)
 3. Verbs/Activities
 4. Places/Rooms/Transportation (include special events such as Special Olympics, prom, wedding, etc.)
 5. Modifiers (weather, feelings, colors, other adjectives, etc.)

Additional noun categories:

6. Clothing/Body Parts
7. Food
8. School/Work Objects
9. Home Objects/Furniture
10. Animals

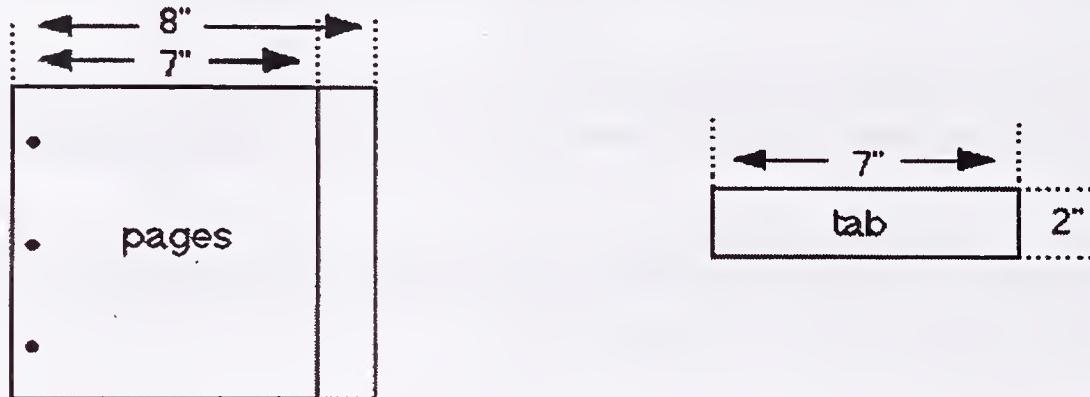
The last three sections may vary according to the person's interests.

CUT PAGES AND TABS

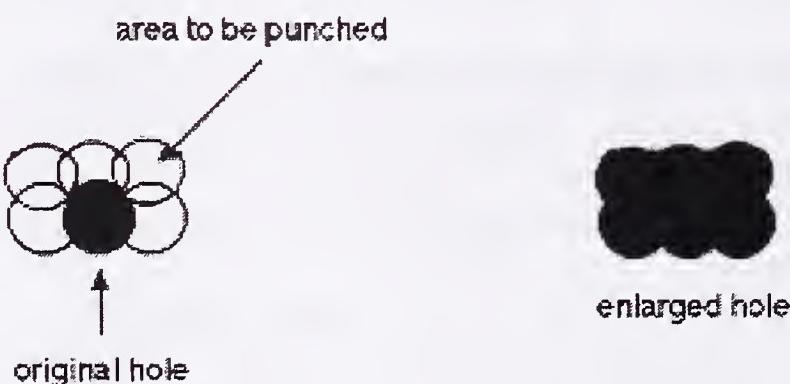
1. Using the mock-up, determine how many pages will be required for categories 1-5 above. Cut the paper used for pages into the appropriate number of 7" x 11" pages. (Vocabulary for the first category, "conversation pages", can be mounted on any

paper and placed in the clear plastic page protectors).

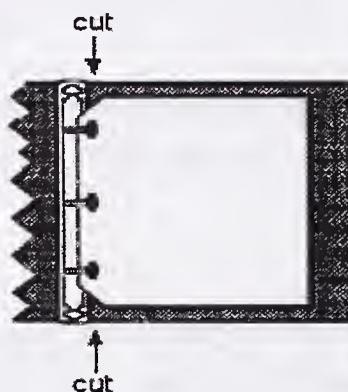
2. Using the mock-up, determine how many pages will be required for categories 6-10 above. Cut the paper used for pages into the appropriate number of 8" x 11" pages.
3. Cut 10 strips (2" x 7") for index tabs.



4. Punch 3 holes in each sheet of paper using a 3-hole punch. (The edge of each hole should be about 1/4" from the edge of the page.)
5. Enlarge each hole by punching 5 holes around it (so that each page will turn easily).

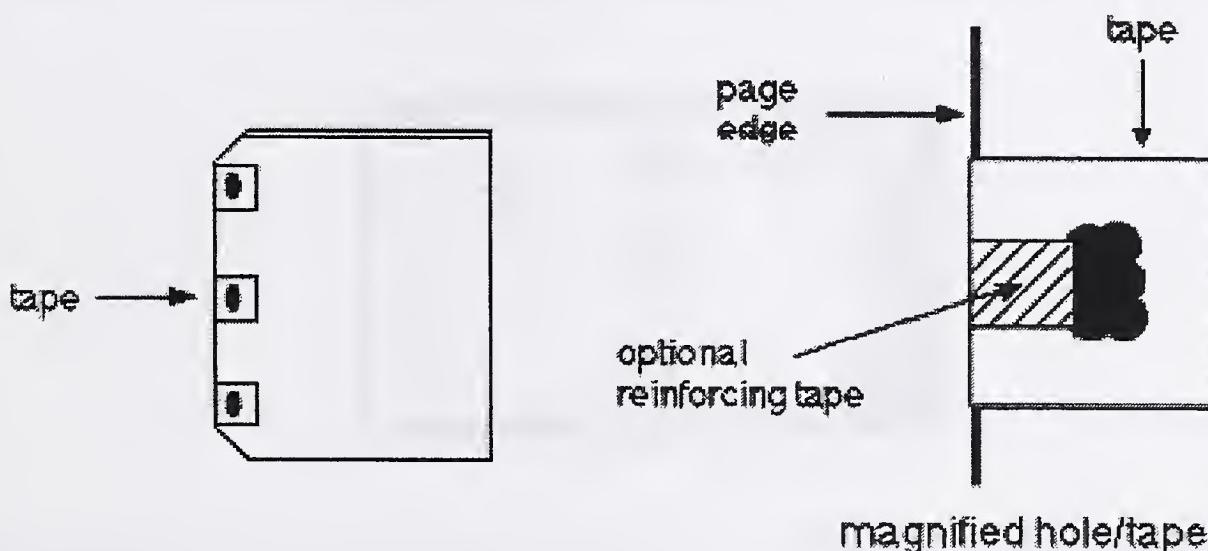


6. Trim both inside corners of each page so that the corners won't hit the ring-opener tabs when the pages are turned.



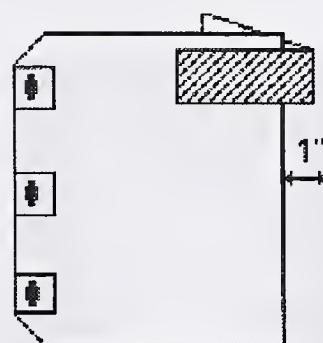
PROTECT AND WATERPROOF PAGES AND TABS:

1. Cover both sides of each page with contact paper or laminating material. Trim the edges and then seal them with scotch tape. Re-punch the holes.**
 2. Cover both sides of each tab strip with contact paper or laminating material. Trim the edges and then seal them with scotch tape.
 3. Cut 2" x 1" strips of cloth tape or strapping tape. Cover each hole, folding the tape over the edge of the page. Re-punch the holes.** If extra reinforcement is needed, add another smaller piece of tape to the side of the hole nearest the page edge.
- ** Don't forget to re-punch the holes each time a layer of laminating material or tape is added. Attempting to punch through multiple layers can be painful, if not impossible.

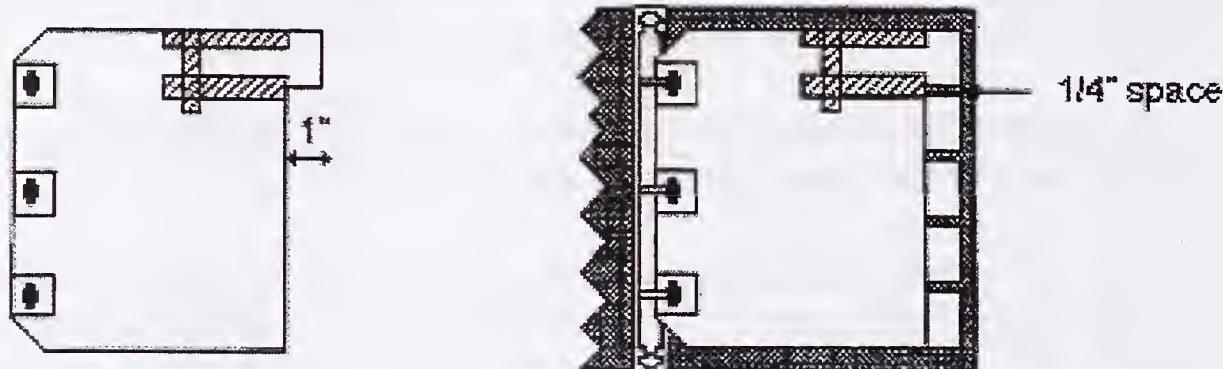


ATTACH TABS:

1. Fold the 2" x 7" strips in half. Slide one strip onto the outside edge of what will be the first page of each of the above vocabulary categories (#1-#10).

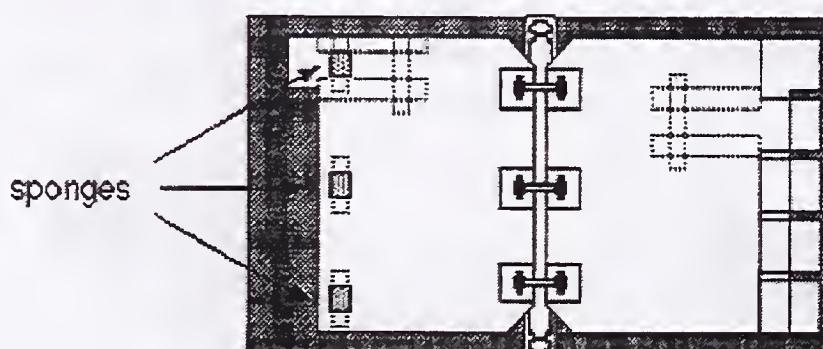


2. Tape the strip securely on both sides of the page. Leave a 1" tab protruding. When the pages are stacked one on top of each other there should be a 1/4" space between each tab.



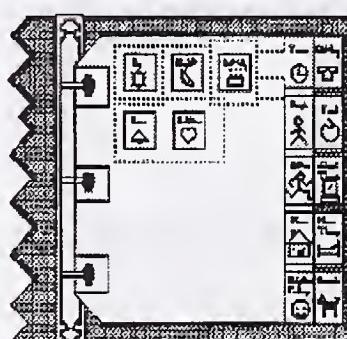
ADD SPONGES AND PICTURES:

For those who need sponges to separate the pages, cut a sponge into 1" x 1/2" rectangles, 1/4" thick. Attach 2 or 3 sponges to the back of each page with a piece of scotch tape.



Pictures may be added one at a time or in small or large groups, depending on the individual's skills and vocabulary needs. Single pictures or groups of pictures should be placed on a page and then covered (i.e. fastened to the page) with contact paper. (It is O.K. if pieces of contact paper overlap.)

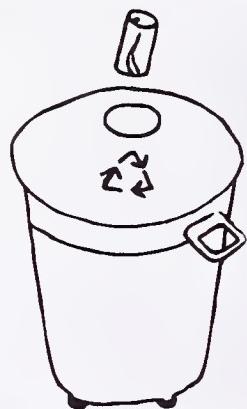
Don't forget to label each tab with written words and pictures.



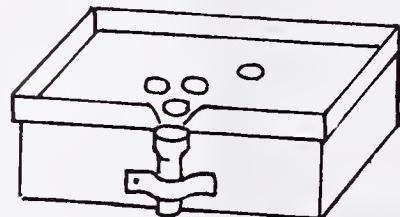
Later when the book is remade, pictures can be placed beneath the layer of contact paper initially used to cover/protect a page. (However, if a laminating machine is used instead of contact paper, it is best to laminate the pages and tabs separately, adding the pictures later with contact paper. This is because pictures or tabs placed on a page prior to machine lamination create air pockets beneath the lamination.)

APPENDIX H

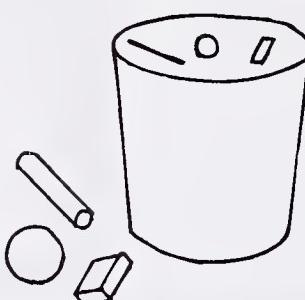
CAN INSERTION



COIN COUNTING



INSERTION



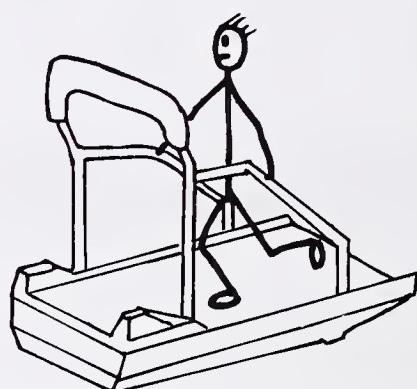
EXERCISE BIKE



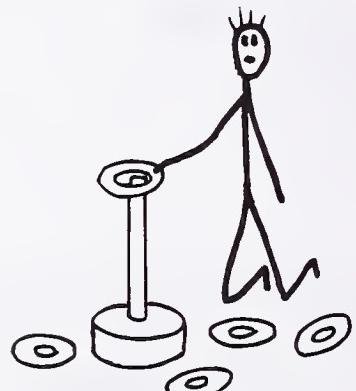
SCOOTER BOARD



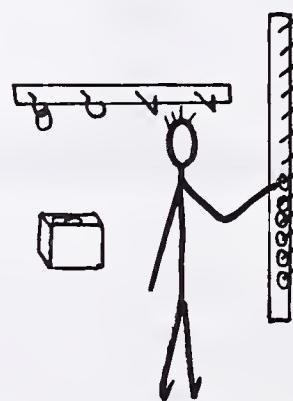
TREADMILL



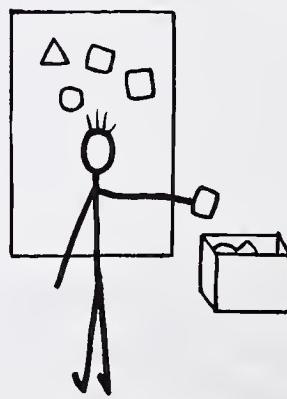
LARGE RING STACK



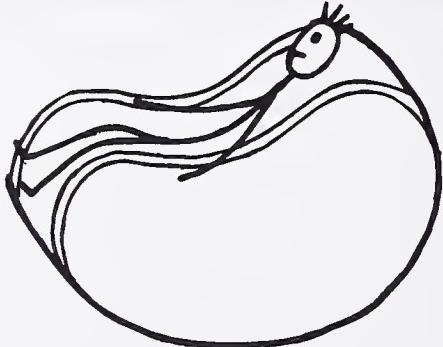
RING HANGING



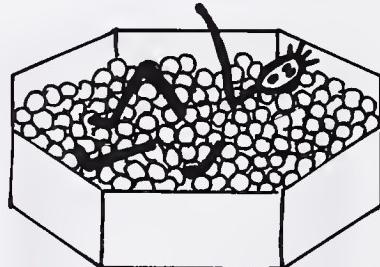
VELTEX BEAN BAG PULL



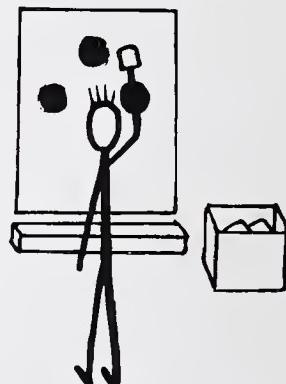
VESTIBULAR CHAIR



BALL POOL



TARGET GAME



CRAFT TASK ANALYSIS WORK SHEET: INDIVIDUAL

PROJECT: _____ DATE: _____

CLIENT: _____

<u>STEPS OF TASK ANALYSIS</u>	<u>LEVEL OF ASSISTANCE NEEDED BEFORE MODIFICATION</u>	<u>REASON FOR DIFFICULTY</u>	<u>SUGGESTED ADAPTIVE EQUIPMENT</u>	<u>SUGGESTED ROLE OF ASSISTANT</u>	<u>FINAL LEVEL OF INDEPENDENCE/ PARTICIPATION</u>
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					

<u>STEPS OF TASK ANALYSIS</u>	<u>LEVEL OF ASSISTANCE NEEDED BEFORE MODIFICATION</u>	<u>REASON FOR DIFFICULTY</u>	<u>SUGGESTED ADAPTIVE EQUIPMENT</u>	<u>SUGGESTED ROLE OF ASSISTANT</u>	<u>FINAL LEVEL OF INDEPENDENCE/ PARTICIPATION</u>
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					

CRAFT TASK ANALYSIS WORK SHEET: GROUP

PROJECT: _____

<u>STEPS OF TASK ANALYSIS</u>	<u>SKILLS NEEDED</u>	<u>CAPABLE PEOPLE WITHOUT MODIFICATIONS</u>	<u>POSSIBLE ADAPTATIONS</u>	<u>CAPABLE PEOPLE WITH MODIFICATIONS</u>
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				

Independent Leisure Activities Survey
Tasks an Individual Pursues Alone Following Basic Set Up

APPENDIX J

Activities	Level of Preference			Level of Independence			Maximal Assistance Needed
	Highly Preferred	Neutral	Disliked	Independent	Some Prompting Required		
SENSORY EXPLORATION							
BUMBLE BALL (Other Vibrating Item)							
TEXTURE BOARD							
SPINNING BOARD							
BALL POOL							
PUTTY OR CLAY							
LOTION							
SHAVING CREAM							
FAN							
SMELLS							
HORNS, BUZZERS etc.							
ORAL MOTOR EXPLORATION							
BINS OF SAND, PASTA, STONES etc.							
TEXTURED BALLS OR RINGS							
OTHER (DESCRIBE):							

Independent Leisure Activities Survey

page 2

Activities	Level of Preference			Level of Independence		
	Highly Preferred	Neutral	Disliked	Independent	Some Prompting Required	Maximal Assistance Needed
TRADITIONAL LEISURE ACTIVITIES						
LISTENING TO TAPES/RADIO/(MUSIC)						
TV						
LISTENING TO TALKING BOOKS						
TURNING PAGES IN A MAGAZINE/ BRAILLE BOOK						
USING A PIANO, KEYBOARD OR STRINGED INSTRUMENT (more for sound input than music)						
HOLDING A STUFFED ANIMAL						
COMPLETING A PUZZLE/FORM BOARD						
CONSTRUCTING WITH BLOCKS, ART-LIKE FORMS, PIPE TREES etc.						
FINDING ITEMS (on tray or veltex board and putting them in a bin)						
PLACING PEGS IN A BOARD						
STACKING/HANGING (rings, cups, etc.)						
OTHER (DESCRIBE):						

Independent Leisure Activities Survey

page 3

Activities	Level of Preference			Maximal Assistance Needed
	Independent	Neutral	Some Prompting Required	
GROSS MOTOR PURSUITS				
WALKING ON TREADMILL				
RIDING EXERCISE BIKE				
JUMPING ON SMALL TRAMPOLINE				
SWINGING				
BOUNCING ON THERAPY BALL				
USING AIR MATTRESS				
OTHER (DESCRIBE):				
<u>SWITCH ACTIVATED TASKS</u>				
MUSIC / SOUND				
LIGHT SHOW				
VIBRATION				
MOVEMENT OF TOY				
FAN				
OTHER (DESCRIBE):				

APPENDIX K
YAHTZEE™ (Adapted)

**How Many of Each Number
Can You Get in 3 Rolls?**

		Game 1	Game 2	Game 3
	1s			
	2s			
	3s			
	4s			
	5s			
	6s			

Total:

**If Total Is More Than 18
Add 5 Bonus Points**

Bonus:

Total Top:



Full House (5)



Small Straight (4)



Large Straight (5)



3 of a Kind (3)



4 of a Kind (4)



Yahtzee (10)

Total Bottom:

Total Top:

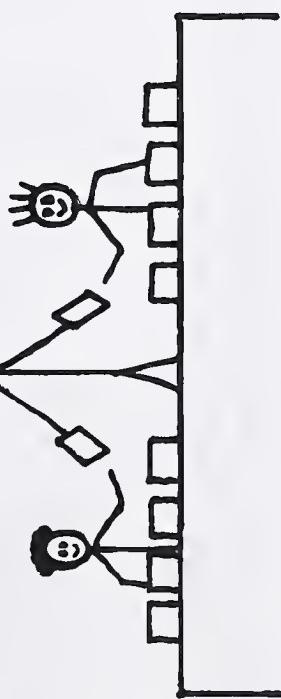
Grand Total:

GUIDE TO YOUR HUMAN RIGHTS AND RESPONSIBILITIES

WELCOME TO GWARC!

YOU HAVE BECOME A MEMBER OF A PROGRAM WHICH WORKS TO GIVE YOU THE TRAINING AND SUPPORT YOU WILL NEED TO LEARN NEW SKILLS. GWARC STAFF WANT YOU TO KNOW THAT WE UNDERSTAND AND RESPECT YOUR HUMAN RIGHTS. WE WANT EVERYONE IN THE PROGRAM TO UNDERSTAND THEM TOO! THIS BOOKLET WAS WRITTEN TO HELP YOU LEARN WHAT IT MEANS TO HAVE HUMAN RIGHTS.

THIS BOOKLET ALSO EXPLAINS THE RESPONSIBILITIES THAT COME ALONG WITH HAVING RIGHTS. YOU ARE EXPECTED TO RESPECT THE RIGHTS OF OTHERS. AFTER ALL, EVERYONE HAS RIGHTS! YOU ALSO HAVE THE RESPONSIBILITY TO TAKE CARE OF YOURSELF. THAT MEANS THAT IF YOU FEEL THAT YOUR RIGHTS HAVE BEEN VIOLATED IT IS UP TO YOU TO SPEAK UP AND GET HELP. OTHERWISE, NO ONE WILL KNOW THAT THERE IS A PROBLEM.



AS A PERSON IN THIS PROGRAM YOU HAVE THE SAME RIGHTS AND RESPONSIBILITIES AS ALL THE ADULTS IN OUR SOCIETY. YOUR RIGHTS CAN ONLY BE TAKEN AWAY BY A JUDGE IF YOU OR SOMEONE ELSE IS IN DANGER OF BEING HARMED. DON'T BE AFRAID TO SPEAK UP IF YOU THINK YOU ARE BEING UNFAIRLY TREATED. IF YOU ARE WRONG AND YOUR RIGHTS WERE NOT REALLY VIOLATED, YOU WILL NOT GET IN TROUBLE FOR COMPLAINING.

UNDERSTANDING YOUR RIGHTS AND RESPONSIBILITIES TAKES TIME, AND WE WANT YOU TO ASK QUESTIONS IF YOU HAVE THEM. READ ON FOR MORE INFORMATION, AND ONCE AGAIN, WELCOME ABOARD!

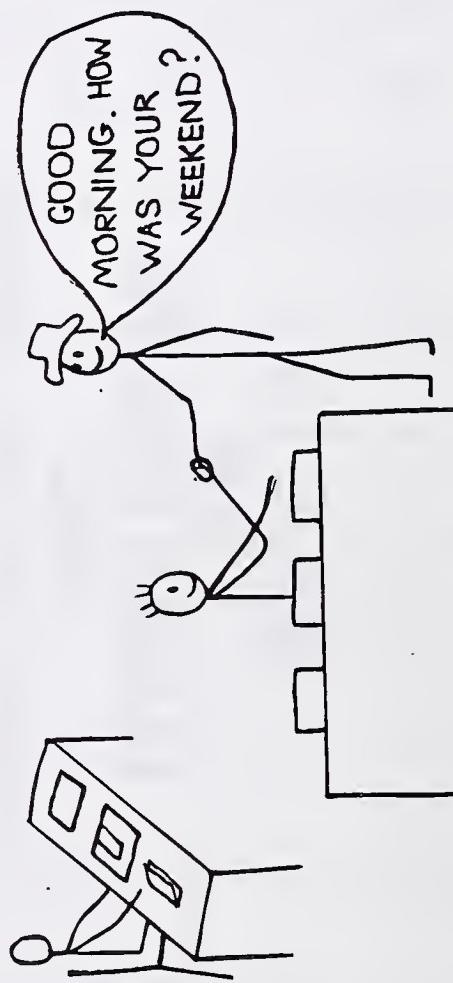
YOU HAVE A RIGHT TO BE TREATED WITH
"RESPECT"

RESPONSIBILITY

YOU HAVE THE RESPONSIBILITY TO TREAT
OTHERS WITH "RESPECT".

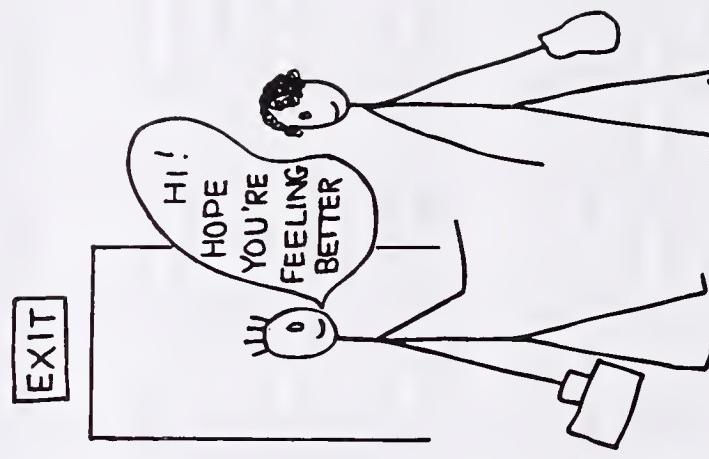
"RESPECT" MEANS:

RIGHT
BEING PLEASANTLY
SPOKEN TO.



(1)

TALKING TO OTHERS IN A CALM, FRIENDLY WAY



EXIT

(2)

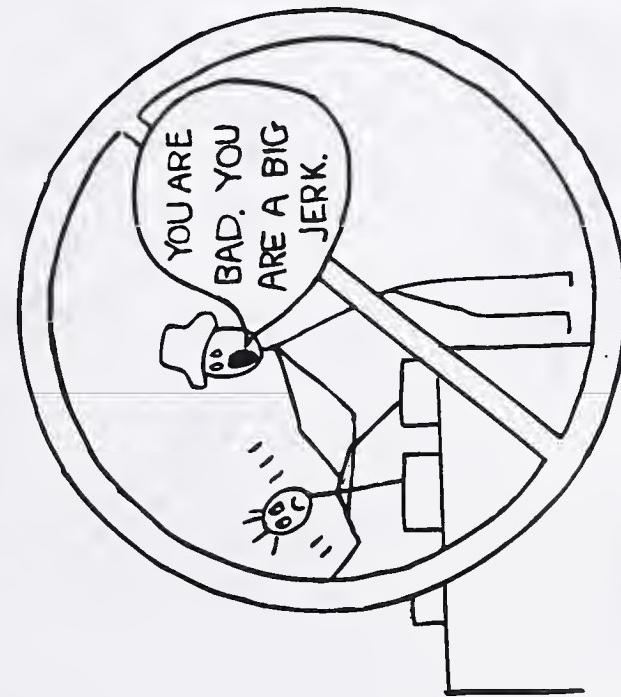
RIGHT
NOT BEING YELLED AT,
TEASED, OR ROUGHLY
TOUCHED.

RESPONSIBILITY

NO YELLING, TEASING, SWEARING, OR MAKING
NOISES THAT BOTHER PEOPLE



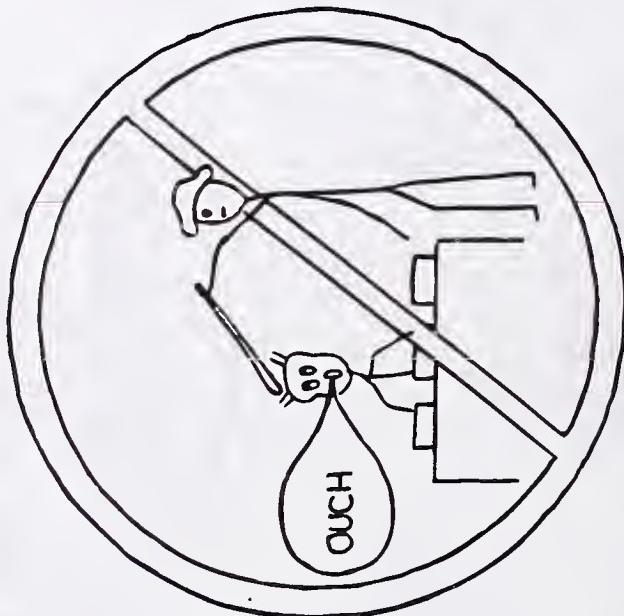
(3)



(4)

RIGHT

NOT BEING HIT OR
TOUCHED WHEN OR
WHERE YOU DO NOT
WANT TO BE TOUCHED.



(5)

RESPONSIBILITY

NO HITTING, HURTING, OR TOUCHING OTHERS WHEN
OR WHERE THEY DO NOT WANT TO BE TOUCHED.



(6)

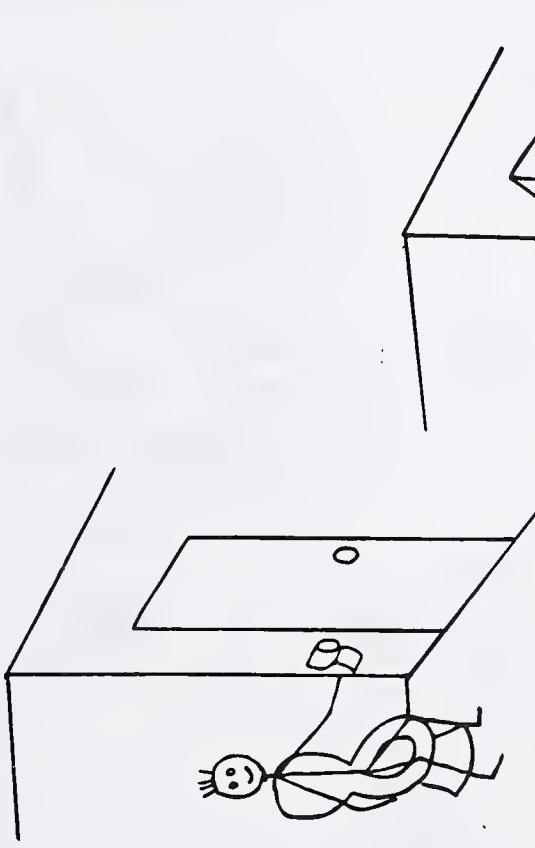
RIGHT

HAVING PRIVACY WHEN YOU WANT IT.
UNLESS YOU NEED HELP.

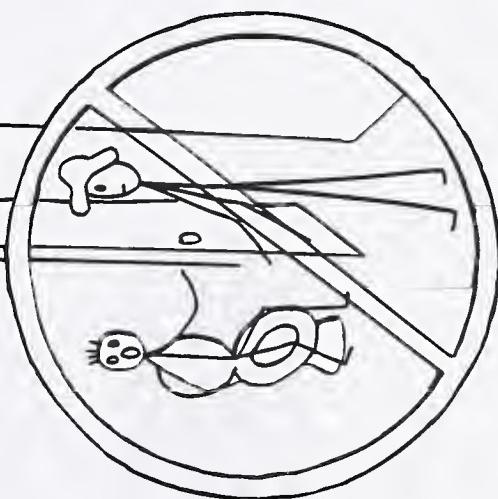
YOU MAY WANT TO BE LEFT ALONE IN THE
BATHROOM, IN YOUR BEDROOM, OR ON THE
TELEPHONE.

RESPONSIBILITY

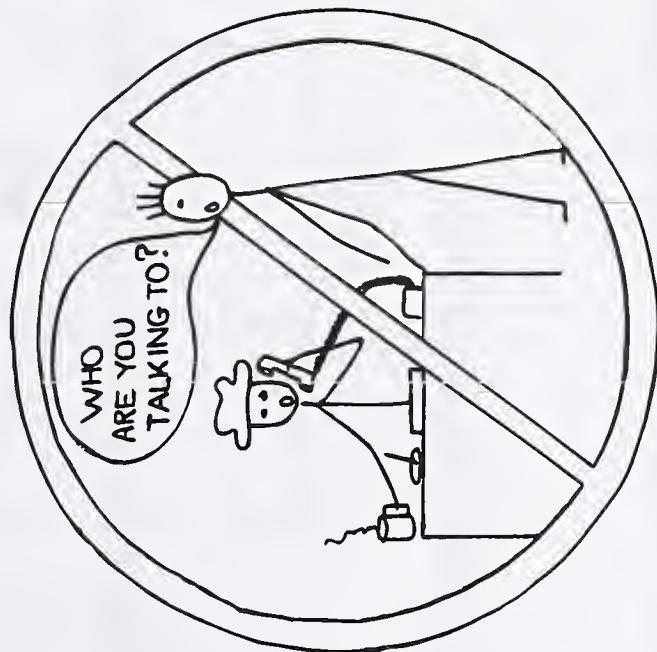
GIVING OTHERS PRIVACY WHEN THEY NEED
IT TOO.



NOT:



(7)



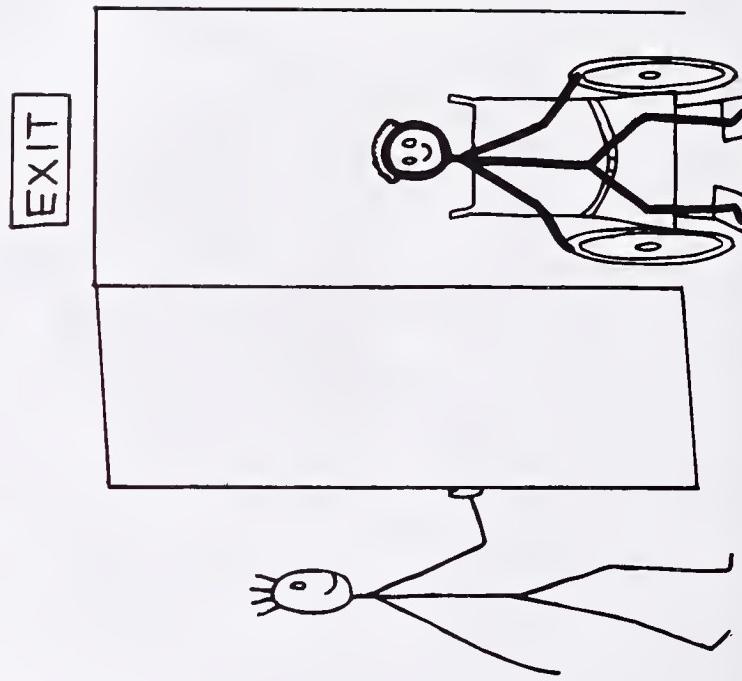
(8)

RIGHT

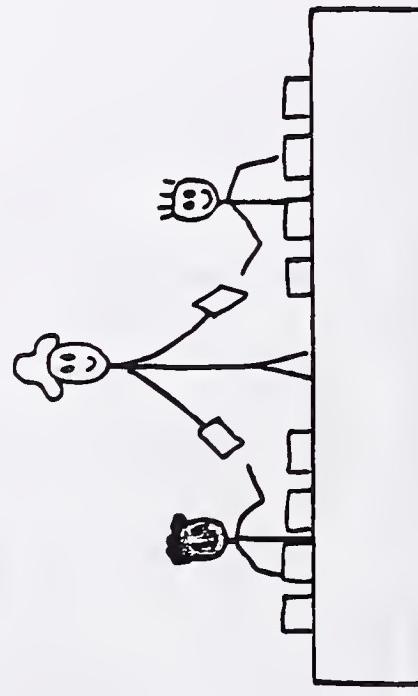
HAVING FAIR AND
EQUAL TREATMENT
NO MATTER WHAT
YOUR DIFFERENCES
ARE.

RESPONSIBILITY

TREATING PEOPLE WHO ARE DIFFERENT FROM
YOU THE WAY YOU WOULD LIKE TO BE TREATED.



(9)



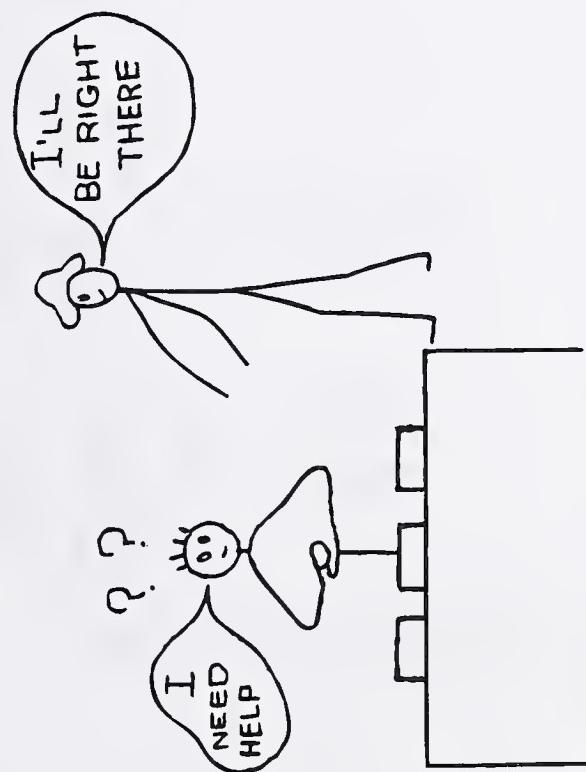
(10)

RIGHT
GETTING HELP WHEN
YOU NEED IT.

LETTING PEOPLE KNOW IF YOU ARE HAVING
TROUBLE OR IF YOU NEED MORE WORK.

WAITING PATIENTLY WHEN OTHER PEOPLE
NEED HELP.

AND
HELPING OTHERS WHEN YOU CAN.



(11)

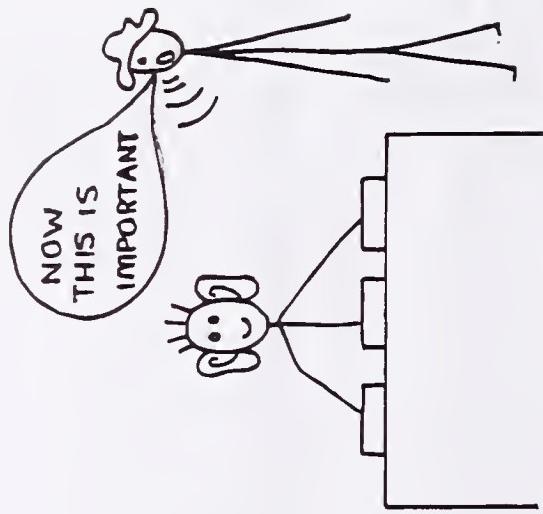
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RESPONSIBILITY

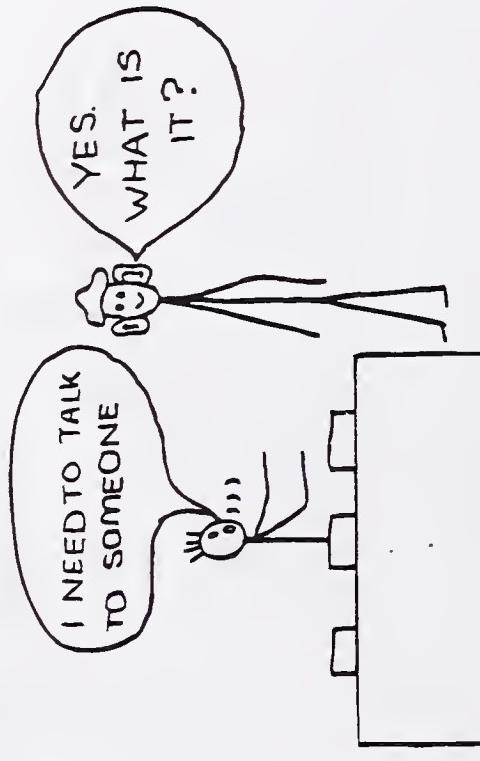
RIGHT BEING LISTENED TO.

RESPONSIBILITY LISTENING TO OTHERS.

LETTING OTHERS HAVE THEIR TURN TO TALK.



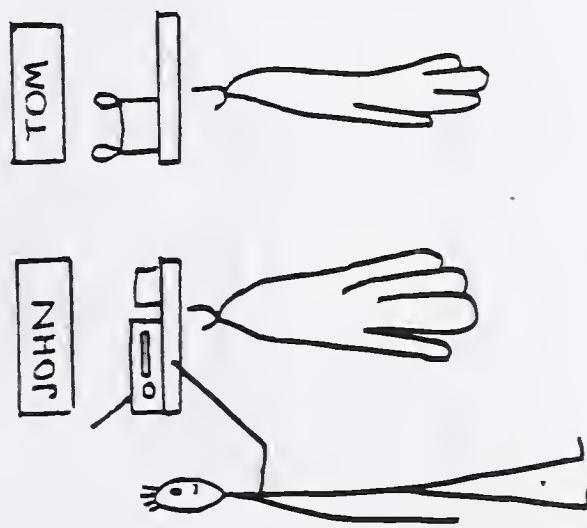
(14)



(13)

RIGHT

HAVING A SAFE
PLACE TO KEEP YOUR
BELONGINGS.



(15)

RESPONSIBILITY

KEEPING YOUR THINGS WHERE THEY BELONG.

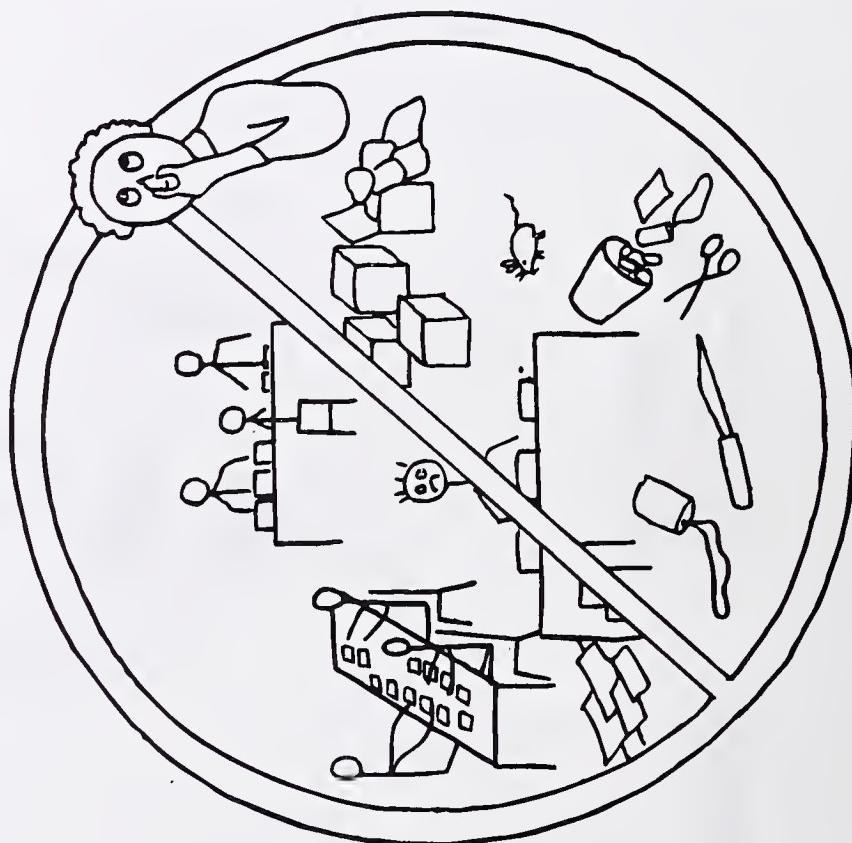


(16)

RIGHT

HAVING A CLEAN AND COMFORTABLE PLACE TO
WORK

NOT A CROWDED, DIRTY, UNSAFE WORK AREA.



(17)

RESPONSIBILITY

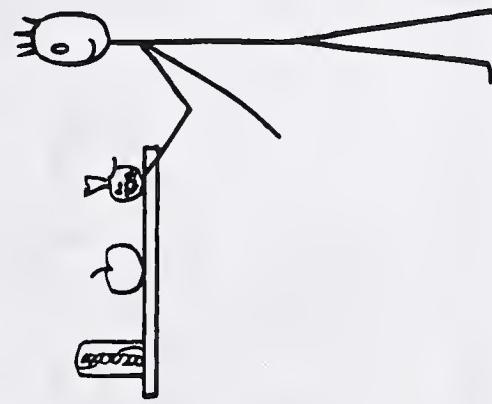
KEEPING YOUR WORK AREA CLEAN AND NEAT.



(18)

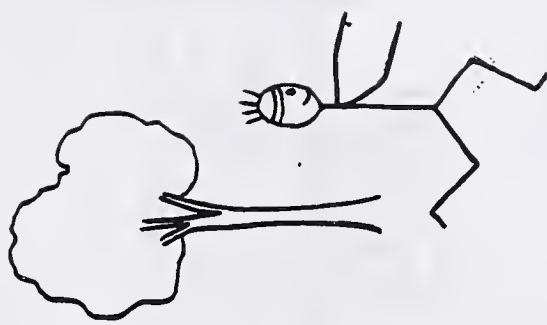
YOU HAVE A RIGHT TO MAKE DECISIONS
ABOUT:

WHAT YOU EAT

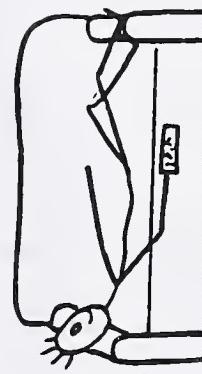


(19)

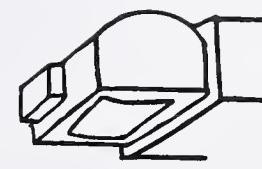
THE WAY YOU CARE FOR YOURSELF
TO STAY HEALTHY



OR

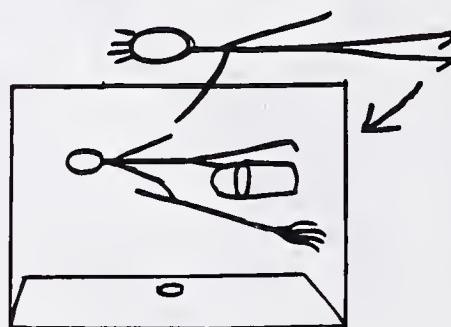
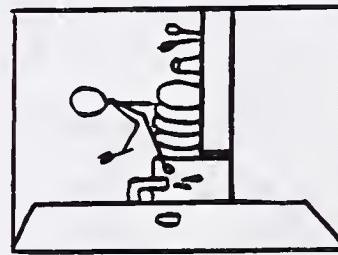
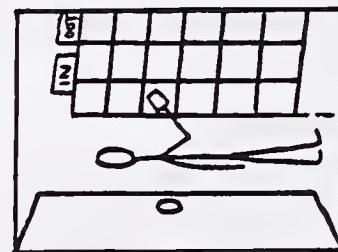
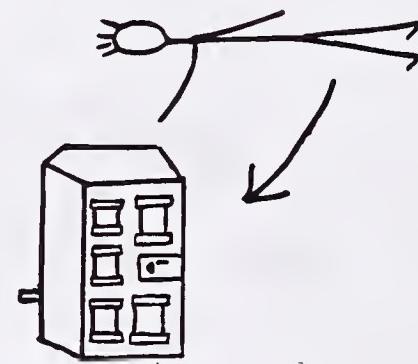
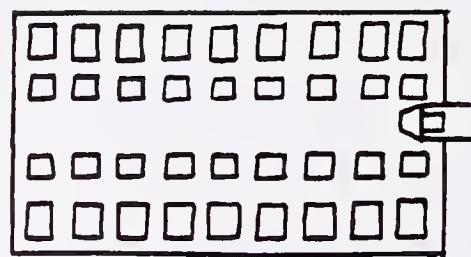


(20)



WHAT YOU WANT TO DO FOR WORK OR ACTIVITY

WHERE YOU LIVE



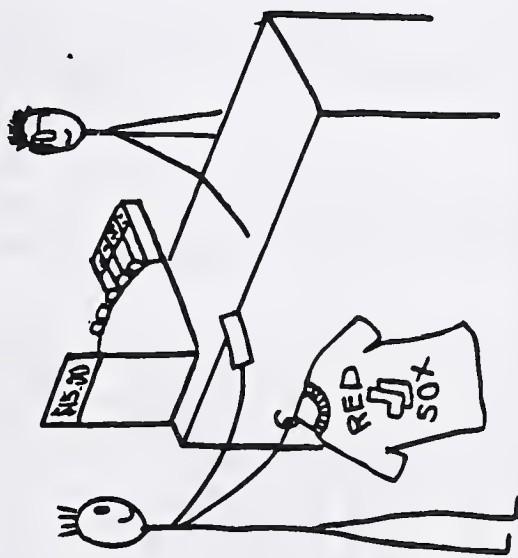
(21)

(22)

IF YOU HAVE A GUARDIAN THEY WILL BE THERE
TO HELP YOU MAKE HARD CHOICES.

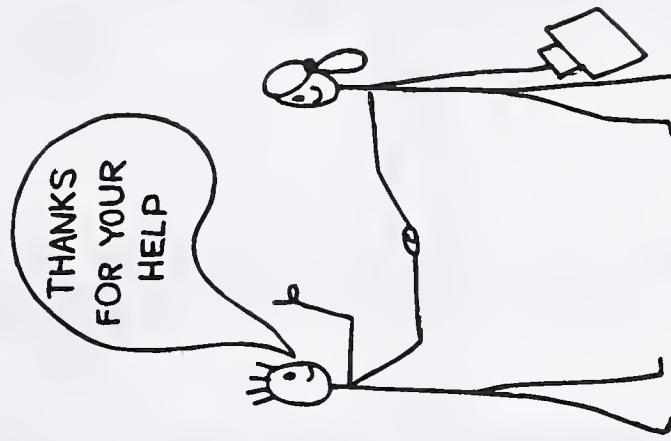
HOW YOU SPEND YOUR MONEY

YOUR RESPONSIBILITY IS TO CONSIDER OTHER
PEOPLE'S NEEDS AND OPINIONS WHEN YOU
MAKE THESE DECISIONS. SOMETIMES YOU MAY
NOT KNOW THE BEST THING TO DO.



(23)

(24)

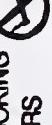


YOU HAVE A RIGHT TO KNOW:

WHAT IS IN YOUR RECORD

WHAT THE PROGRAM RULES ARE
AND

WHAT HAPPENS IF YOU BREAK THESE RULES

- PROGRAM RULES**
1. BE ON TIME
 2. SHOW ADULT BEHAVIOR
 3. NO EATING AT WORK STATIONS
 4. NO SMOKING 
 - INDOORS

- IF YOU BREAK THE RULES ANY OF THESE THINGS CAN HAPPEN:**
1. NO BREAK
 2. NO OUTING
 3. LESS PAY
 4. NO SPECIAL TIME WITH A FAVORITE STAFF PERSON

YOU HAVE A RIGHT TO TELL PEOPLE WHAT YOU THINK AT YOUR ISP MEETING.



IT IS YOUR RESPONSIBILITY TO LET YOUR TEAM KNOW HOW YOU FEEL ABOUT YOUR PROGRAM, JOB, OR LIVING SITUATION SO THEY CAN HELP YOU MAKE CHANGES IN YOUR LIFE.

IT IS YOUR RESPONSIBILITY TO FOLLOW THESE RULES.
(25)

DON'T BE SCARED TO SPEAK OUT IF SOMETHING IS IMPORTANT TO YOU. YOU CAN'T MAKE A MISTAKE.
(26)

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Cognitive Development:

Piaget, Jean and Barbel Inhelder, The Psychology of the Child, Basic Books, 1969

Vasta, Ross, Marshall M. Haith, and Scott A. Miller, Child Psychology: The Modern Science, Chapter 8: "Cognitive Development: The Piagetian Approach", pp 251-297, John Wiley and Sons, Inc., New York, 1995

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Beukelman, D. R., & Mirenda, P., *Augmentative and Alternative Communication - Management of Severe Communication Disorders in Children and Adults*, Paul Brookes Publishing, Baltimore, MD, 1992

Elder, P.S., & Goossens', C., *Engineering Training Environments for Interactive Augmentative Communication*, Southeast Augmentative Communication Conference Publications, Birmingham, AL, 1994

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Fernald Developmental Center Speech and Audiology Department - 1996, Third Person Prompt Procedure - *Clinical Manual Handout*

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Handen, B.L., & Zane, T, Delayed Prompting: A review of procedural variations and results, *Research in Developmental Disabilities*, 8, pp.307-330, 1987

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Light, J., Interaction involving individuals using augmentative and alternative communication systems: State of the art and future directions, *Augmentative and Alternative Communication*, 4, pp. 66-82, 1988

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Stillman, R.D., & Battle, C., The Callier-Asuza Scales for the Assessment of Communicative Abilities, Dallas: University of Texas, Callier Center, 1985

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Gardening:

Bown, Deni, Growing Herbs: A Superb Visual Index and Practical Guide, Dorling Kindersley, New York, 1995

Wickham, Cynthia, House Plants Throughout the Year, William Collins Sons and Co. Ltd, Toronto, 1985

Integration of Therapeutic Services Models:

Halle, J. W., Teaching Functional Language to the Handicapped: An Integrative Model of Natural Environment Teaching Techniques, *Journal of the Association for Persons with Severe Handicaps*, 7, pp.29-37, 1982

Giangreco, Michael F. PhD, Jennifer York PhD, PT, and Beverly Rainforth, PhD, PT, Providing Related Services to Learners with Severe Handicaps in Educational Settings Pursuing the Least Restrictive Option, *Pediatric Physical Therapy*, 1989

Oliver, C.B., & Halle, J.W., Language Training in the Everyday Environment: Teaching Functional Sign Language Use to a Retarded Child, *Journal for the Association for the Severely handicapped*, 8 (3), pp. 50-62, 1982.

Sailor, W., & Guess, D., Severely handicapped students: An instructional design, Boston: Houghton Mifflin, 1983

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Stokes, T., & Baer, D., An Implicit Technology of Generalization, *Journal of Applied Behavior Analysis*, 10, pp. 349-367, 1977

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Makowicki, Jim, Making Heirloom Toys, The Taunton Press, 1996

McGuire, Kevin, Woodworking for Kids: 40 Fabulous, Fun and Useful Things for Kids to Make, Sterling Publishing Co., Inc., New York, 1993

Underhill, Roy, The Woodworker's Apprentice: 20 Favorite Projects from the Woodwright's Shop, University of North Carolina Press, 1996

Whidden, Scott, Adaptive Woodworking Handout, United Cerebral Palsy Community Experience Program, Watertown, MA, 1997 (For inquiries call 617 924-2771)

Work Related Activities:

Campbell, Molly, A Therapeutic Approach to Work Related Tasks: An Activities Curriculum, Therapro, Inc., Framingham, MA

Friedman, Lee, Carl T. Cameron, and Jennifer M. Fletcher, Transition to Work Inventory: A Job Placement System for Workers with Severe Disabilities, The Psychological Corporation, Harctheirt Brace and Company, San Antonio, TX

SOURCES FOR EQUIPMENT AND SUPPLIES

COMPANY

Able Net Inc.
1081 Tenth Avenue SE
Minneapolis MN 55414-1312
1-800-322-0956

American Horticultural
Therapy Assoc.
362-A Christopher Avenue
Gaithersburg, MD 20879-3660
1-800-634-1603

Badge A Minit
P.O. Box 800
La Salle, IL 61301
1-800-223-4103

Commercial Plastics
and Supply Corp.
352 McGrath Hwy
Somerville, MA
(617) 623-2100

Cross Creek
Recreational Products, Inc.
P.O. Box 289
Millbrook, NY 12545
1-800-645-5816

Don Johnston, Inc.
1000 N Rand Rd Bldg 115
P.O. Box 639
Wauconda, IL 60084-0639
1-800-999-4660

Flaghouse "Special Populations"
150 North Macquesten Parkway
Mount Vernon, NY 10550
1-800-793-7900

MATERIALS WE RECOMMEND

Switches, timers, power links, "big mac" single switch operated communication tapes, adapters for slide projectors, spinners, etc.

Resource for gardening ideas, adaptive equipment solutions, etc.

Button making kits, circle cutters, and replacement parts

Vinyl sheets for communication books and picture mounting, expanded PVC or polypropylene for sensory boards

Sensory stimulation, work-related fine motor, and leisure materials

Augmentative communication and computer access materials

Sensory stimulation materials, switch activated devices, seating options, gross motor supplies

Foam Rubber Discount Center
165 Brighton Ave
Allston, MA
(617) 254-4819

Foam for treadmill guides, scooter boards, etc.

Jesana Ltd.
979 Saw Mill River Road
Yonkers, NY 10710
1-800-443-4728

Sensory stimulation materials, switch activated devices

North Coast Medical, Inc.
PO Box 6070
San Jose, CA 95150
1-800-235-7054

Modifications for cooking and home care, foam handles, splinting materials for adaptive equipment design, etc.

P and A Sales
100 Barber Avenue
Worcester, MA 01606
(508) 856-0744

Nyloop (Veltex) fabrics, Sta-Put Adhesive, Velcro

Sammons Preston
PO Box 5071
Bolingford, IL 60440-5071
1-800-323-5547

Cooking adaptations, splinting materials (that we use for modifying handles)

Smith and Nephew
One Quality Drive
P.O. Box 1005
Germantown, WI 53022-8205
1-800-558-8633

Work-related fine motor tasks (ring stacking and hanging, cone stacking, pipe trees, etc.)

Sportime Abilities
One Sportime Way
Atlanta, Georgia 30340-1402
1-800-850-8602

Gross motor and leisure materials

Therapro, Inc.
225 Arlington Street
Framingham, MA 01701
(508) 872-9494

"A Therapeutic Approach to Work-Related Tasks: An Activities Curriculum", fine motor-work activities, sensory stimulation materials

Toys for Special Children
385 Warburton Avenue
Hastings-on-Hudson, NY 10706
1-800-832-8697

Switch activated spectacles, vestibular chair and other seating options, sensory stimulation materials

